

THE STANDARD RATE IN AMERICAN TRADE UNIONS

BY
DAVID A. MCCABE

A DISSERTATION

Submitted to the Board of University Studies of The Johns
Hopkins University in Conformity with the Requirements
for the degree of Doctor of Philosophy

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TABLE OF CONTENTS

	PAGE
PREFACE	vii
INTRODUCTION	9
CHAPTER I. The Piece Scale	18
I. Differentiation of the Rate	19
Form of the product	23
Materials used	49
Physical conditions	54
Price of the finished article	55
II. Definition of Work	58
Auxiliary work	59
Payment of helpers	61
III. Abnormally Difficult Conditions of Production....	65
The turn system	69
CHAPTER II. The Standard Time Rate	77
I. Rate Grouping by Kind of Work	82
II. Rate Grouping by Competency	94
III. The Union Rate and Actual Wages	106
Provision for payment above the minimum..	106
Union policy and the minimum	108
Wages and efficiency	114
CHAPTER III. The Area of the Standard Rate	120
I. Area of Piece Scales	121
Local scales	124
Sectional scales	128
National scales	142
II. Area of Time Rates	163
Local rates	163
Sectional rates	166
National rates	171
Conflict of rates	178
III. Comparison of Piece and Time Rates	181
CHAPTER IV. The Form of the Rate	185
I. Attitude of the Unions	185
II. Objections to Piece Work	212
III. Acceptable Conditions for Piece Work	225
APPENDICES	233
A. Calculation of Output in Mule Spinning	233
B. Premium and Bonus Systems of Payment	235



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PREFACE

This monograph had its origin in an investigation carried on by the author while a member of the Economic Seminary of the Johns Hopkins University. It was submitted as a dissertation in partial fulfilment of the requirements for the degree of Doctor of Philosophy from that institution in June, 1909. Some portions of it have been amplified and other parts rewritten since that time, but the discussion has not been brought beyond that date.

The chief documentary source of information has been the collection of trade-union publications in the Johns Hopkins Library. This documentary study has been supplemented by personal interviews with national trade-union officials and with local union officers and employers of labor in a number of industrial centers. The writer wishes to record here his deep appreciation of the patience and kindness of the many union officers and employers who have supplied him with information. The writer desires also to express his deep indebtedness to Professor Jacob H. Hollander and Professor George E. Barnett, under whose guidance the study was undertaken and carried on, for valuable suggestions and criticism at every stage of the work.

THE STANDARD RATE IN AMERICAN TRADE UNIONS

INTRODUCTION

By the term "standard rate," as employed in the present monograph, is meant a rate of wages fixed by a trade union as payment for a given product or for work of a given duration in a particular trade or branch of a trade, and binding on the members of the union engaged on that product or in that branch of industry.¹ It may thus be either a piece rate or a time rate. In either case it is "standard" because it rests uniformly and impersonally upon all the members of the union whom it is designed to affect; it is applied to the work the member is engaged upon, not to the individual member himself. The union does not ordinarily rate each individual separately according to his personal qualifications or circumstances, but fixes one rate as a standard for the group. In the few cases in which a union fixes rates separately for individual members,² the rates are "union" rates, but they are not standard rates in the sense in which this term is here used.

¹The use of the term in this sense differs somewhat from the practice of American trade unionists. "Standard rate" is not often used by unionists, the term "union rate" being more commonly employed. When used, it is usually in reference to the time rate only, although even here the term "minimum rate" is more common. In a few unions, however, the term "standard rate" is still occasionally used to denote the rate received by the average workman, or by the bulk of workmen, irrespective of whether this be the established minimum. Some years ago, it was customary in a few trades to refer to the amount which the workman of average skill was expected to earn in a day under the piece-work system as the "standard rate"; but this usage barely survives, if at all (see below, p. 80). Finally it should be noted that in applying the term "standard rate" to the prevailing type of union rate herein described, the present writer is following the usage established by Sidney and Beatrice Webb in "Industrial Democracy" (1902 ed., p. 279).

²For a description of such cases, see below, p. 77.

The maintenance of standard rates has always been a leading feature of American trade-union wage policies. The unions have from the first sought to attain their primary purpose of advancing wages by substituting collectively established rates of wages for those which their members could obtain by competition in isolated wage bargains. Almost universally their efforts in this direction have taken the form of the establishment and enforcement of standard rates. In the present study the standard rate is considered solely as a device for securing effective union participation in the determination of wage rates by union bargaining or by collective enforcement. The standard rate is regarded as a trade-union device, as a piece of union mechanism, and attention is directed entirely toward questions of form and extent of application, and especially to the manner in which it fulfills its purpose of enabling the union to bring its collective strength to bear in behalf of the individual member in the settlement of actual wages. The amounts of the various rates maintained by the respective unions, the forms of collective bargaining by which the rate is fixed and the social implications of the standard rate are subjects outside the scope of the present study.

The standard rate is ordinarily expressed as a minimum rate. Members are allowed to receive more than the standard rate, but for a member to work for less, unless specifically exempted by the union, is a violation of the union rule. The establishment of a standard rate does not, therefore, necessarily secure to the unions complete participation in the settlement of the wage rate to be paid in each individual case. Such full participation would require that the union rate should be the actual rate paid to each workman. Union piece prices are almost always the rates actually paid, for there is ordinarily no good reason why the employers should pay one member more per piece than another for the same kind of work. Standard time rates, however, are, with few

exceptions,¹ not only nominally but actually minimum rates, leaving it necessary for individual settlements to determine in each case whether and to what extent the rate to be actually paid shall exceed the standard.

Piece rates as contrasted with time rates are therefore intrinsically better adapted to collective action. Since those who are working by the piece on the same kinds of product or parts of a product ordinarily are paid at the same rate, they all have a common interest in the rate. But there is no such advantageous rallying point in the matter of time wages. Indeed there is a natural tendency in time wages to variation on account of differences in competency among the workmen. In the case of the piece rate, or of the normal work day, on the contrary, the union makes a uniform demand, which is assumed to advance the interests of all alike, and can be easily made the subject of union bargaining for the group as a whole.

Bargaining for time wages thus presents an inherent difficulty. It is not reducible to a uniform demand which is to affect all alike. On the other hand the policy of establishing a distinct time rate for each individual worker has not commended itself to the unions.¹ This policy would give the union full control of actual wages, if it could be enforced; but the union rate would in each case apply to an individual only. There would be collective action, but not for a rate with collective application. As actually in vogue, the standard time rate may not give complete union determination of actual wages; but it does make possible a rate of collective application. It has the advantage of simplicity as a means of determining wages for a considerable number of men in collective bargaining and as an obligation to be enforced by the union. In choosing to enforce minimum time rates rather than actual individual rates the unions have surrendered a possible complete participation in the determination of actual wages in favor of a kind of union rate which makes much more feasible the establishment by

¹ See below, p. 77.

union bargaining, or—in the absence of a union agreement with the employer—by collective enforcement, of the rates adopted by the union.

There is also a distinction between standard piece and time rates in the extent to which they are established by union agreement with the employer. Practically all union piece rates that are enforced are established by collective agreement.¹ Union piece rates can hardly be enforced unless they are accepted, tacitly at least, by the employer, since the standardization of the unit of product can hardly be accomplished by a series of individual negotiations. The bargaining process would be too frequently recurrent to insure that each individual worker would secure the union rate for each varying unit of product as it appears in the course of his work. The standard time rate, on the other hand, does not present the same necessity for union bargaining for its successful use as a means of giving the union an effective participation in the wage settlements of its members. Adherence to a minimum by the members in their separate contracts with their employers presents no technical bargaining difficulties for the individual workers. The time standard is, however, extensively made the subject of union bargaining. Although the adoption and observance by the union of standard rates which have not been formally accepted by employers is not uncommon, it is unusual for a union to attempt to put in force a higher

¹ There are three sets of conditions under which wage bargaining may be carried on with the use of a standard rate. First, a bargain may be made by the union covering the rate actually to be paid to all in the group. This exhausts the necessity of bargaining in the matter of wages. The union is here the party to the wage contract from the side of the employees to the exclusion of the individual members. In the second case, the union agrees with the employer on a minimum rate, but each individual may also make a wage bargain with reference to the amount above the minimum which is to be paid. In the third case, while the union does not appear in a wage bargain and the individual alone contracts with the employer, the member in his wage settlement is required by his union to observe a minimum fixed by the union. The third case is obviously distinct from the first two in that the union as such does not bargain with the employer.

minimum rate without notifying the employers in advance of its intention and inviting from them individually or collectively an expression of willingness to recognize it. Very often the rate for a specified period is agreed upon in conference by the union representatives and the employers and embodied in a written contract.

The problems which arise in the use of the standard piece rate are chiefly technical problems of formulation and enforcement growing out of the adjustment of rates to meet many varieties of product. In bargaining for and regulating time wages the difficulty in standardization is due to the differing capacities of the men; in bargaining for and regulating wages for piece workers the difficulties are mostly technical difficulties in standardizing rates for varieties of types, styles, and patterns of product. In this respect the fixing of piece wages might be contrasted, for example, with the fixing of the length of the normal work day. When the number of hours per day is to be determined by union bargain or rule the whole matter of the hours of labor is settled once for all when one amount is agreed upon. But when piece wages are to be bargained for, as many different rates must be settled upon as there are different kinds of product involved.

It is of course the schedule of piece rates as a whole, the piece "scale," which is the center of interest in the regulation of piece wages in any given trade. It is upon all the standard rates taken collectively that the union relies to secure standardization of the piece wages in its trade. The rate problem of the piece-working unions is therefore one of maintaining a scale which will standardize all the rates actually paid and do away with the necessity for individual bargaining for the rate actually to be paid in any particular case. The formulation and application of a schedule of rates which will accomplish this fully is obviously not without its difficulties.

The two essential characteristics of a piece scale which is

to standardize rates satisfactorily are comprehensiveness and clearness. Comprehensiveness is the first essential. Obviously the union does not participate to the full in wage determination if a union rate is not set for every contingency which can reasonably be made the subject of wage bargaining. It is regarded as highly desirable by the piece-working unions that the rate to be paid in every such case should be set down in the regular scale. If work is done of a kind or under conditions not provided for in the existing scale, the rate to be paid, temporarily at least, may have to be settled upon with the employer by an individual or individuals. In many cases, to be sure, it is settled by a local or shop committee. But such a committee is usually representative of fewer members and has less bargaining strength than the body which regularly contracts for the scale. The rates it may establish are union rates, but they have not the standard character of the rates embodied in the regular scale.¹

Clearness is an essential complement of comprehensiveness. Not only must rates be established to cover all varieties of product and conditions which call for distinct rating in practice, but each rate must be laid down so clearly that there is no doubt as to which kind of product and under what conditions it applies. If there is uncertainty or misunderstanding as to whether a particular rate in the scale applies in a given case the necessity remains of further bargaining to determine the rate which shall actually be paid, and often under circumstances which may make it unusually

¹ The regular scale is very seldom thoroughly comprehensive, since new and special kinds of work appear from time to time in the intervals between scale revisions. The regular list in nearly every case covers of necessity only the varieties of product which have been made up to the time of its construction or revision. New and special work must be priced, provisionally at least, by the employers and shop committees in the plant in which it appears. This is not seriously felt as a difficulty unless this unrated work forms a considerable portion of the whole and is difficult to price by comparison with the work already rated in the regular list. Where the latter situation exists it is regarded as an objection to the piece system, inasmuch as it opens the way to misunderstandings and to nonuniformities in rate for a large part of the product.

difficult to reach a decision without friction. Clearness is particularly important if the scale applies in several separate localities. In such cases a misunderstanding in a particular shop must be taken up by a body not only of less bargaining strength than that which made the scale, but one whose interpretation is less authoritative for the employer. Uniform application without disputes of regular scale rates to all the work to be done is the union ideal in piece-rate regulation and for this both comprehensiveness and clearness are indispensable. The nature of the difficulties which arise in constructing comprehensive and clear scales and the contingencies which have to be provided for, as these appear in practice and are met in existing piece-rate systems, will be described in Chapter I of the present study.

The questions of chief interest in the employment of the time standard rate grow out of the fact that, as workmen are found, there are variations in efficiency in practically every group of workers. If the union is to secure effective participation in wage determination the minimum rate must be so adjusted that a relatively large proportion of the workmen covered by a particular rate will be favorably affected in a perceptible way by its existence. The basis chosen for the inclusion of workers within a given rate group very largely determines the difficulty of reaching this result. If the groups are so divided that the members of each are of almost equal wage-earning capacity the minimum rate will stand in approximately the same relation to the wages of all the members of the group. In such a case the use of the standard rate for time wages seems to reap a maximum of union advantage. If, however, the members employed in a given trade or branch of a trade vary considerably in worth to the employer, unless they are grouped according to competency and each group rated correspondingly, any particular standard rate will either be so low as to be of little appreciable support to the most efficient men, or so high as to exclude a number of the least efficient from employment at the union rate.

There is obviously an inherent difficulty in establishing standard rates for workers who are not standardized. Occasionally unions have sought for a solution in the direction of standardizing the workers by dividing them into groups according to competency. But the usual basis of grouping is the kind of work done, not the efficiency with which it is done. An appreciable tendency toward standardization of men engaged in the same kind of work or subject to the same minimum, at least toward the elimination of those below a somewhat variable level of capacity, is fostered in many unions by the requirements as to competency insisted on for admission to membership. In the great majority of cases, however, the same rate applies to workers of appreciably differing capacities, and the establishment of the standard leaves some members of more than average efficiency under the necessity of individual contracting to secure wages higher than their less efficient fellow members. The influence of the various phases of union policy connected with the maintenance of minimum time rates on the opportunities of the speedier or more highly skilled workmen to obtain more than the union rate, and the extent to which they actually do obtain more, are among the most significant questions connected with union wage policies—and the most difficult of exact answer. The policies and experiences of representative unions in the use of the standard time rate, considered from this point of view, are presented in Chapter II.

The distinguishing mark of a standard rate, that is to say, the attribute which makes a union rate standard, is uniformity of application, or the obligation to observe such a rate in all the shops or localities for which it is established. A very important point with regard to any given rate therefore is the industrial or territorial extent over which it is standard. Some rates are standard only for single shops, others for localities, others for districts or sections embracing many localities, and some in all shops or plants in the entire union jurisdiction. These several areas of applica-

tion and the determining reasons for each will be taken up in turn in Chapter III.

The union preferences and policies in the matter of the form of the standard rate and the reasons which account for these will be considered in Chapter IV. The question of the form of the rate reduces itself in practice to a choice between the time rate and the piece rate, and this choice is obviously determined by the union's preference for the time method of payment or for the piece method. The decision between the two forms of rate is complicated in some trades by the fact that employers often prefer to follow the very method to which the unions object. The union attitude is in most cases not merely one of preference for one form but of deep hostility to the other. This makes the question of the form of the rate a not unimportant source of industrial disputes.

CHAPTER I

THE PIECE SCALE

The function of the piece scale, as pointed out in the Introduction, is to provide clearly a distinct rate for each variety of product and for each substantially different set of circumstances surrounding production, in so far as these require distinction in payment and can be anticipated. In existing piece-working trades there are three important elements which directly affect the rate of remuneration and which, therefore, must be considered in standardizing piece wages. These are: (1) the physical characteristics of the product itself, (2) the conditions under which it is produced, (3) the operations or processes which are assumed to be included in the task of the worker who receives the rate. A satisfactory piece scale must in most trades take account of all three of these sources of difference.

The commonest occasion for rate differentiation is that resulting from differences in the product itself,—dimensions, pattern, style, or the materials from which it is made. These differences are of such conspicuous importance in compelling differentiation in rates that it might seem that the task of scale formulation consists practically in providing for them. But it is also essential that what is to be done by the worker to secure the rate, that is to say, the precise activities which must be performed by him or by a helper or helpers paid by him, be defined in the scale, wherever this is not so clearly understood as to obviate need of definition. If there be non-uniformity as to the performance of supplementary or subsidiary operations by the piece worker, there is variation in the real rate of payment, and, presumably, a reduction in some cases from the rate intended. Definition is often necessary, not only to prevent non-uniformity in the rate of remuneration, but to put a stop to disputes

as to what constitutes the worker's standard task. Those differences in the physical conditions of production which are normal and calculable present no special difficulty in standardizing wages. The task of providing rates to meet them is closely akin to that of rating familiar variations in the form of the product itself, and will be considered with the latter in the present discussion. But it is necessary in many trades, in order to safeguard the worker's general rate of remuneration, and to prevent wage disputes, to make provision in the regular scale for the payment to be made when conditions are less favorable than is normal, as for instance, when the materials furnished are defective. It is important, too, that the scale shall clearly indicate exactly when these special provisions are to apply.

These three features of piece-scale construction (1) rate differentiation to correspond with differentiation in the product itself or in the conditions under which it is normally made, (2) definition of what is to be done by the worker to secure the rate, and (3) provision for payment when conditions are abnormally difficult for attaining output, as they are found in existing piece-working systems, will be considered in turn.

I

DIFFERENTIATION OF THE RATE

First, as to differentiation in rates to correspond with differences in the product itself or in the conditions under which it is normally made. The character and number of these differences vary, of course, from trade to trade, and the problems presented are in their details peculiar to each trade. For the piece-working trades as a whole, however, they may be grouped under several heads according to the lines of differentiation. The most important of these is in (a) the form of product, including under this head variations in size or dimensions, in pattern or shape, and in finish. Next in order comes (b) differentiation in the materials. Somewhat similar is (c) the prevalence of different

physical conditions which affect the difficulty of attaining output. The different materials are assumed to be in normally good shape for working and the physical conditions sufficiently familiar to be given piece rates. Often several, and sometimes all, of these bases of differentiation are found together in the same trade, each demanding consideration in the determination of the rate for a given unit of product. Differences in pattern and in materials are in particular frequently found crossing each other.

The task of making and enforcing a list of clearly applicable standard rates to correspond with these differences as they appear in a particular trade involves no little difficulty. In many of the piece-working trades it demands a considerable part of the time of the union officials and is even responsible for the existence of special agencies in the union frame of government. For the construction of a satisfactory piece scale it is necessary not only to enumerate and specify the different varieties of product to be rated, and the different sets of physical conditions, where these have to be taken into account, but also to secure agreement as to how the rates shall vary to compensate the comparative skill and effort required for the production of a unit in each different case. In a trade in which there is wide variety in the forms of the product this is a serious task.¹

The necessity of securing agreement as to the differentiation which is to be made in the rate schedule to meet differences in the form of the product is the heart of the problem. The difficulty lies not so much in establishing the fact that a given variety of product turned out under given circum-

¹ It is true, to be sure, that no piece-working trade has to face the task of constructing a scale outright. Price lists are dealt with as already "going." Even a union which makes a list for the first time by collective bargaining has a tentative basis in the prices prevailing before collective bargaining was begun. The normal concern of the union with the piece scale is that of interpretation, revision, and amendment. But the difficulties which would be encountered in the original construction of a scale are met, though probably not to the same extent, in keeping the scale in satisfactory running order. The same questions which would arise in constructing a new price list have to be answered in the pricing of new work and in the consideration of requests for the revision of particular items.

stances calls for more skill or exertion per unit than another, as in establishing the degree of difference. This difficulty goes back to the practical impossibility of obtaining an exact measure of the labor demanded for turning out units of product of different kinds, or of the same kind under different conditions. At times other factors than comparative difficulty of production, as for instance, the price conditions obtaining for certain varieties are admitted in fixing rates, but the ruling consideration is nearly always comparative difficulty.¹

The measure of comparative difficulty used in practically all piece-working trades is the time that should be required by a worker of an assumed grade of skill to produce a unit of the product under certain conditions which may be regarded as normal. The grade of skill taken is usually that assumed to be the average in the trade.² It is generally intended that each rate should give workers of equal speed approximately the same return for the same length of time worked on any of the pieces listed. At least the rates on the various pieces on which a worker may normally expect to be engaged in the course of a week or less should yield an assumed return for the period.³ The problem of rate

¹ Instances of rate differentiation not based entirely on differences in comparative difficulty are given below; see pp. 55-58.

² Comparative time required is an indication of comparative difficulty only when special skill is not necessary for doing all or any part of the work; it is a measure only when skill is indicated by speed in doing the same kind of work rather than by ability to do kinds not performed by the ordinary workman. The measure of comparative time can be applied to determine how the rates for the specially difficult varieties of work should stand in relation to each other, but not to determine the relation of these to the rates for the ordinary varieties. The differential between ordinary and special varieties of work must be great enough, of course, in the long run to draw to the special work the proportion of men needed for it. Where there are such divisions of the trade the extent of the differential in weekly earnings accorded the higher division is usually of long standing. In practically all of the larger piece-working trades, however, every worker is assumed to be able to turn out any work on the list, and comparative time is therefore followed throughout as a measure of comparative difficulty.

³ In trades in which a list has been long established this assumed average return is that given by those rates in the list which are already accepted without question. In some of the more poorly organized trades in which rates have not the same permanence it is a round sum per week.

differentiation is reduced in practice, therefore, to a determination of the time required for the production of a unit of each of the various kinds of product under each different set of conditions.

The comparative time actually required by workers of average skill to turn out different units of product in the several factories or plants in which the same standard rates are to be binding is, of course, extremely difficult, if not impossible, of exact determination. It can hardly be established as a constant for the period for which the scale is signed even in a single factory or plant. In practice, therefore, it is generally the estimated comparative time that is applied as the rate determinant. Exactness is not aimed at, but it is intended that an approximation shall be reached which can be assumed to be fair when particular pieces are averaged. The rates arrived at in this way are not always satisfactory, and where the use of this determinant apparently fails to give rates in approximate correspondence with difficulty of production there is objection on the part of the workers to the piece system as it exists in the trade. However, in many piece-working trades time required is felt on the whole to be a practical guide in rate differentiation, and in these trades both contracting parties are content to accept it and trust to periodic revision to prevent the continuance of any discrepancies that may find their way into the list and work injustice to individual employees or employers.

The necessity of enumerating clearly the varieties of product and conditions which have been rated, to the extent necessary to prevent misunderstandings, is not an unimportant part of the task of piece-scale construction, though not the major part. In those trades in which one scale covers several shops or localities, real difficulty has often been experienced in the attempt to make clear beyond the chance of dispute and throughout the territory for which the scale is binding, the rates which are intended to be paid in every case covered in the list. In a number of trades

the necessity of determining prices in local dispute and of clarifying the price list to avoid further misunderstandings of the same character has contributed considerably to the work involved in operating the scale.

Form of the product.—As differences in the form of the product—dimensions, pattern, or finish—are by far the most common of those variations in the product or in the conditions under which it is turned out which compel rate differentiation, it is under this head that most of the difficulties in standardizing the price lists are to be found.¹ It is in adjusting rates to meet differences of this kind that the measure of comparative time required must oftenest be called into service, and it is in the application of these particular rates that most of the questions as to the rate intended to be paid are raised.

It is not merely the relative number of distinct sizes or patterns to be covered by a single scale which determines the degree of difficulty in maintaining a standard price list. The extent to which the variations follow a well understood gradation in physical measurements or are reducible to easily ascertained variation in the number of constituent items, is an important factor. If the distinct forms can be identified by reference to measures of weight or length, or to other units of computation well known to the trade, the danger of misunderstanding in interpreting the lists is eliminated or greatly reduced. The particular variety of product for which a given rate is to be paid can in such cases be clearly indicated, and questions as to where particular pieces belong in the rate classification can be decided by the application of physical measures or by the use of formulas of which the factors are capable of exact determi-

¹ There are a few piece-rate systems which do not have to take account of differences in pattern or style. The most important of these are the piece-payment systems of the coal miners, the iron puddlers or boilers, and the longshoremen. Payment in the first two trades is per ton, and among the longshoremen it is per ton or in terms of a unit of cubic or linear measurement. The variations in rates are naturally for differences in the materials worked or handled, or in the conditions affecting the difficulty of mining, puddling, or loading and unloading.

nation. An orderly variation also—even if it does not allow an all-inclusive classification to be made—simplifies the matter of rate differentiation when new work is to be priced, or when revision is requested of particular prices in the list. If the product follows a well understood order of differentiation, the relation between physical measurement and difficulty of production at different stages in the gradation is likely to be well established, and the fixing of the prices in question is facilitated by reference to existing types of work and the respective prices paid.

Physical standards of this kind are available and are used to a considerable extent as guides in price setting in the textile trades, more particularly in spinning and weaving. In cotton mule spinning, for instance, the rates are made to vary with the "number" of the yarn spun. The "number" is the number of skeins (of 840 yards each) in a pound of the yarn. The mule spinners' price lists set forth the price to be paid per 100 skeins for the numbers from 9 to 130, the numbers ordinarily paid for under the piece system, and provide that "for fractional parts of numbers if less than half a number the lower price will be paid; when over half a number the price of the next higher number will be paid."¹ The price for any number of yarn from 9 to 130, therefore, is clearly determined.

The number of the yarn is accepted in the trade as a fair index of the comparative time required to spin a given length or weight of yarn. In the first place, the number of turns of twist per inch to be put into the yarn is a fixed multiple of the number of the yarn being spun. Secondly, the number of the yarn is directly related to the time lost in "doffing," that is, in removing the "cops" of spun yarn and putting empty reels in place. On the lower numbers the frequency of such stops is appreciably greater than when finer yarn is being spun. The price per 100 hanks or skeins runs up steadily from number 36, and is increased for the

¹ Price-List for Mule Spinning on and after April 10, 1908, New Bedford, Mass.

numbers below 36 with each block of several numbers. The higher prices of the numbers below 36 are due to the increased stoppings for doffing, which more than offset the greater speed in actual spinning of the coarser yarn.¹

Losses from full output, except for cleaning and for minor accidents which occur independently of the spinner's efficiency, are assumed to vary with the care and skill exercised by the spinner. Thus the output which may be expected if the spinner suffers no preventable losses, or none from accident, varies with the number, and may, therefore, be closely calculated in advance. Consequently any variation in rates according to variations in this calculated output at each number will give earnings very closely in correspondence with comparative efficiency, if other conditions affecting production, such as the character and condition of the machines and of the cotton being spun are assumed to be standard. The estimated actual output which is taken as a basis in setting rates designed to give a certain average weekly wage is reckoned by subtracting from the calculated output under perfect operation a given percentage to allow for the output the average spinner is expected to lose because of breaks and for minor accidents.² The national secretary of the Cotton Mule Spinners states that the New Bedford price list was arrived at "by trying to make the wages equal by fixing a price according to the product of the mules on the varying numbers."

In the weaving of woollen and cotton goods, similar factors are available for determining in advance the time required for the production of given lengths of the various patterns. The determinants here are the number of "weft" threads thrown across the warp per inch, known as the number of "picks per inch," and the number of times the shuttle crosses the warp per minute, termed the number of "picks per minute." The number of picks per minute divided by the picks per inch gives the length of fabric in

¹ See Appendix A for method of calculating the standard output of cotton mule spinners.

² See Appendix A.

inches woven per minute. For plain weaving, at least for goods of the same width, the speed of the looms, that is, the number of picks per minute, is usually standard for a given mill. "Fancy" fabrics or greater widths can not be woven at the same rate of speed, so that the picks per minute are less for these than for plain goods. As in mule spinning, the percentage of continuous operation depends partly on the materials used and partly on the skill and care exercised by the operators. Within wide limits no attention is paid to variations in the yarn numbers; but for such items as extra coarse filling, which necessitates more frequent stoppings to replace the exhausted shuttle bobbins, allowance is made in the expected output. For the same kind of weaving, as for instance the weaving of plain cloth, if the yarns used are of proper strength, the looms in good running order, the speed of the looms the same, the width of the cloth standard, and the numbers of the warp and filling within given limits, the output, that is, the picks per inch by inches woven, will vary with the skill and care exercised by the operators.

If the picks per minute be taken as uniform and other conditions are standard the price per pick per inch serves as a basis for adjusting wages to difficulty of production. It has been customary in New England to set prices for weaving woollens and worsted in terms of "mills per pick," that is, mills per pick per inch. At one time there was a generally recognized price of two mills per pick for plain weaving. The prices per pick for other classes of weaving were arrived at by additions to the price for plain work in the case of complicated weaving, which requires more skill or greater carefulness to avoid loss of time through breaks, or more time to make the proper adjustments of shuttles.¹

¹ More than the price for plain weaving is usually paid when more than one shuttle is used (in some mills for more than two), or more than a given number of "harnesses" (ten or twelve). Additional shuttles mean more colors in the filling to be watched and more care needed in changing the shuttles. More harnesses than the weaver commonly uses means greater difficulty in finding broken threads in the warp and in inserting these in their proper "headles" when more than one are broken. More is paid sometimes, too, for

The standard price per pick has broken down in recent years. The weavers' unions in the woollen trade, though stronger than in the cotton trade, have not as a rule been able to maintain a system of standard prices per pick. Weavers now generally run two looms on plain work and the price per pick for two-loom weaving is but slightly over half that for single-loom weaving, which varies from one and one-half to two mills per pick, with the average probably closer to the lower figure. The system of setting a price per yard per pick per inch is still in common use; but the differentials to be added for departures from plain weaving are far from standardized.

The cotton weavers' unions of New England do not maintain a system of prices based on the picks per inch even for plain cloth, though the necessary factors are present, and such systems are maintained by joint agreement in Lancashire.¹ The cotton weavers' local unions are not strong enough to establish throughout New England a standard basic rate for plain cloth, nor have they secured local agreements for the settlement of prices by this method of calculation from a basic price per pick. Weaving prices are set as a rule by the employers, at so much per cut of 50 yards. The action of the unions in wage matters is usually confined to enforcing percentage advances or to preventing percentage reductions from the existing prices; individual prices per cut are not made the subject of union bargaining as a rule.²

extra close warp, indicated by a high "reed number." The reed number gives the number of warp ends per inch.

¹ See Report on Standard Piece Rates of Wages and Sliding Scales in the United Kingdom, 1900, p. xvii.

² The employers, however, generally arrive at the prices per cut through a calculation, from the picks per minute and picks per inch, of the number of yards of the particular pattern that should be turned out in a week. For common looms on plain cloth ten per cent. is usually deducted for stopping. For automatic looms there is no deduction. This estimated weekly product per loom is multiplied by the number of looms the average weaver is expected to run and a price per cut is set which at this output will give the intended average weekly earnings. The Fall River price for "prints," plain cotton cloth, 28 inches wide, of 64 picks and 64 reed ("64 × 64"), which is usually about 18 cents per cut of 50 yards, 28 inches wide, is taken as a guide by most manufacturers.

The price list of the Elastic Goring Weavers also illustrates a rate differentiation based on calculable variants. The price per yard for webs of the same material varies with the number of picks and dents per inch, and with the leash number. The more common combinations are listed in tables, the numbers of the leash, dent, and pick being given in parallel columns, and provision made in foot notes for the number of cents extra per yard for extra items.¹ The Lace Operatives' price list for weaving is similarly adjusted to variants of the same general character.²

There are several other instances of price lists based on dimensions, but less automatically so than in the textile trades. Nearest to exactness among these is the price list of the sheet and tin division of the Amalgamated Association of Iron, Steel and Tin Workers, for rolling iron and steel billets into sheets of the required thinness. The index of thinness is the gauge number; each gauge number indicates the weight per square foot, and the gauge numbers rise as the weight and the thickness of the sheet decrease.³ The price is given per ton for each of the various numbers in the list. As the thinner the sheets the longer the time, other things being equal, required to reduce a ton of billets to the specified gauge number, the price per ton for sheets of the same width rises with the gauge number. It does not, however, rise proportionately, as the difficulty does not increase proportionately.

In the printing branch of the pottery trade also the union prices follow calculable variants. These are the number of "sprigs" contained on the copper or steel plates used in printing and the number of separate prints necessary to put the pattern on the ware.⁴

¹ Constitution and Rules and Price List of the Elastic Goring Weavers' Amalgamated Association, 1907.

² Revised List of Prices, as amended and agreed to by the Manufacturers and the Chartered Society of Amalgamated Lace Operatives, June, 1907.

³ Western Scale of Prices Governing Wages in Rolling Mills, for the year ending June 30, 1909.

⁴ The following clause in the scale sets forth the method of applying the scale for dinner sets. "The standard 100-piece dinner set

The Window Glass Workers' schedule of rates is also based largely on physical measurements capable of exact determination. The price per "box" of 100 square feet of glass varies with the size of the sheets, the "strength" (that is, thickness) and the quality of the glass.¹ Very recently a "triple" strength has been added to "single" and "double,"² and a distinction in quality re-introduced.³ The variations in the square inches of surface and in the thickness of the sheets figure most prominently in the scale and there is little difficulty in determining these. Some years ago there was a controversy in applying the list, but this was not due to any difficulty in measuring the product. The question turned upon the rate to be paid for cutting "fractional" glass, that is, sheets of which one or both dimensions measured a fractional number of inches, such as 8½ inches by 21. Some employers contended that this should be cut at the same price as whole inches, and though the cutters contended that it was more difficult work and called for a higher rate, for a time a higher rate was not conceded. Finally fractional glass was specifically given a higher price in the scale and this differentiation enforced in the trade.⁴

is to be used for computing price per dozen, to be figured as follows: Divide the number of sprigs on dinner set by number of sprigs used from copper plate which gives number of prints to do one set; then multiply by price per unit as given in above scale which gives you the price of printing 100-piece set, which divided by 8½ dozen gives you the price per dozen of the pattern, which price is to be paid for dinner sets or open stock, straight count, or twelve pieces to the dozen" (Wage Scale and Agreements between the U. S. Potters' Association and the National Brotherhood of Operative Potters, adopted October 1, 1905).

¹ National Window Glass Workers' National Flat Scale, 1909.

² Proceedings of the National Window Glass Workers of America, 1907, p. 99. Triple strength is rated at 150 per cent. the rate for double, and double is a little less than twice the rate for single strength (National Flat Scale, in effect to June 11, 1909).

³ There were four "qualities" in the 1884-5 scale. The scales for several years before 1908-9 provided for but one quality. In the 1908-9 scale provision was made for an additional 5 per cent. for single strength and 10 per cent. for double strength of A. and A.A. quality.

⁴ Proceedings, 1889, pp. 44-5; Minutes of February 6, 1891; Scale, 1892-3; Constitution, 1908, Rules, VII, sec. 52; Scale, in effect to June 11, 1909.

The Typographical Union for many years maintained a system of piece payment based on a scheme of physical measurement of product, which was easy of application but admittedly failed to provide payment in exact proportion to comparative difficulty. Apparently the original intention in the trade was that the matter set up by the compositors should be paid for in proportion to the number of pieces of type set. As counting was impracticable a unit of measurement was adopted which it was assumed varied directly with the number of pieces set. But long before the piece system was abandoned in the trade it was recognized that the unit of measurement did not measure accurately or unvaryingly the number of pieces set. Yet the change to time payment did not come from dissatisfaction with the scheme of piece payment in vogue, but in consequence of the introduction of the type-setting machine.

Composition was paid for at a given price per thousand "ems."¹ The "em" is a unit of surface measurement of equal length and width. The "depth," or length up and down the page, of all pieces of type in each "font" is the same, and the em is the square of the depth. It is, therefore, of fixed dimensions for each font of type. The number of ems is not the same as the number of pieces set, for though the depth of all pieces of type in the same font is the same the widths are not. The widths of the bodies vary with the widths of the letters cast on them and, except for the letter m, are less than the depth. It was assumed, and properly, that the widths of the letters used by each compositor would in the long run average approximately the same. If fonts of type exactly alike were used, therefore, the number of ems would vary in the same proportion as the number of pieces in setting "straight" matter.

The defect of the em as a unit of measurement arose from the fact that the relation of the width of all the pieces

¹ This discussion of the system of payment in the printing trade is based upon pp. 108-131 of "The Printers; A Study in American Trade Unionism," by George E. Barnett in *American Economic Association Quarterly*, October, 1909.

in the alphabet taken together to their depth was not the same in all fonts of type of the same size. Some fonts of the same size were "leaner" than others, that is, the letters were narrower in proportion to their width and so numbered less ems in the combined widths of the letters than normal type of that size. A compositor would therefore have to set more pieces for a given number of ems than he would if using type of a font in which the aggregate width of the alphabet was greater.¹ Attempts were made by the local unions to set standards of width for the ordinary rate and to secure higher rates than the standard for "leaner" fonts; but no really satisfactory adjustment was reached in this way. The national union also gave attention to the question and proposals for the introduction of other units of measurement were considered by the union, the publishers, and the type founders.

Even more important was the fact that the em utterly failed as a measure of difficulty with "fat" matter. The term "fat" in the printing trade is applied to matter containing more open space and consequently less pieces of type to the square inch, than "straight" matter. The price per em was a lump price for all matter and "fat" matter was paid for at the same price as "straight" matter. "A partially blank page thus gave the compositor the same return as a full one, although it involved much less trouble. So the head and foot lines of a book, as well as any 'display' matter which might occur, such as the title, half-title, and dedication pages were paid for as if the space were filled with straight matter."² The "fat" also included dis-

¹ In 1837 "the Columbia Society of Washington appointed a committee to investigate the range of type in the several offices. It was found that the widths of all the lower case, i. e., small letters of the alphabet, taken together measured in different fonts from $11\frac{1}{2}$ to 13 times the depth of the type, or, as the committee put it, $11\frac{1}{2}$ to 13 ems. A compositor working from the 'leanest' font had, therefore, to set about 15 per cent. more pieces of type than from the 'fattest' in order to have as many ems." "In 1879 Mr. Samuel Rastall, in a comparison between five offices in Chicago, showed that, with the same labor with which a compositor setting minion type of standard width could earn \$18.63 in one office, he could earn \$21.65 in another office where the font was 'fatter'" (Barnett, pp. 126, 128).

² Barnett, p. 116.

play advertisements and "cuts" in newspapers, and throughout stood in no given or unvarying proportion to the amount of straight matter in any particular job. The local unions adopted many interesting regulations to prevent the employers "culling the fat" and having it set by time workers. The union's justification therefor was that they assumed the "fat" to be included when the price per thousand ems was set. In some cases the right to the "fat" was given up for a specified increase in rates. Rules were also enforced for the equitable distribution of the "fat" among the compositors in the shop.

There are other cases of rate differentiation based on measurable physical units; but the above sufficiently illustrate in completeness and simplicity the application of such measures. In the other cases the differences in physical measurements play only a minor part in the whole scheme of differentiation, or are much more irregular than in the lists described. The Cigar Makers' lists, for instance, call for prices varying with the number of quarter inches in length, but the prices vary also with important differences in shape and materials.¹ The rates for rolling on "finishing mills" in the scales of the Iron, Steel and Tin Workers vary with the width of the rolls and with the sizes of the rolled iron, but also with the shapes. The large number of different shapes makes the price schedule a descriptive list of patterns rather than a list following differences in measurements like that for sheet mills described above.²

Under the schemes of rate differentiation described above, the determination of the rate class to which given units belong is a matter of physical measurement or computation

¹ This practice is common now; but it is interesting to note that a committee appointed by the Baltimore Cigar Makers to frame a bill of prices in 1879 reported that "from past experience" it did not deem it practicable to draw up a bill "according to inches of cigars." Such differentiation, however, seems to have been desired by the workers at the time (MS. Minutes of Baltimore Cigar Makers, November 14, 1879).

² Western Scale of Prices, 1908-9.

from recognized factors. The application of the list is thus comparatively an easy matter. Moreover the presence in all new and special work of variants already recognized makes the pricing of such work relatively easy. Reliance upon simple physical determinants is, however, on the decline. The tendency in pricing work is toward direct resort to separate estimate of the comparative time required in each particular case, and to detailed description of patterns. This tendency is due to the increasing diversification in patterns which makes the application of simple determinants inadequate.

The characteristic feature of the systems of piece payment next to be described is that each different kind of product must therein be separately priced without the possibility of applying to any serviceable extent recognized physical measurements of difficulty. The observance of the rate for each kind of product, after it has been entered in the list, is secured by adequate description. The differences between the two systems may be brought out more clearly by considering the case of the Granite Cutters, a union in which piece work prevailed in large part until about 1895.¹ In this union the piece rates were based partly on physical measurements and partly on the identification of designs. The physical measures were applied without much difficulty, whereas the identification system could be used only with friction and lack of uniformity.

The price for cutting granite was entered in the scales at a given sum per cubic foot, sometimes per "linear" foot. This price varied—to confine the illustration to granite used for building purposes—with the architectural design or pattern of the stone, with the degree of fineness in execution required, and with the "hardness" or "softness" of the stone.² This last difference was defined usually in terms of the locality in which the granite was quarried and gave

¹ See below, p. 193.

² For example, Quincy Bill of Prices, 1886; Bill of Prices issued by the National Union (about 1888); Bill for Westerly, R. I., 1889; Bill for New York, 1890; Bill for Denver, 1889.

no appreciable difficulty in application. Nor was the kind of finish a cause of much dispute in price determination. The various grades of fineness were well known and passed as numbers of "points"; they were also distinguishable approximately by the tools used, such as "pean hammered," "bush hammered," and "fine bush hammered." Disputes over finish were rather as to whether the required finish had been given than over the rate to be paid for a given finish.

Nearly all the serious difficulties in the application of the price lists grew out of differences in the design or pattern of the stone. The scales provided distinct rates per foot for different patterns, as for example, "bases," "friezes," "moldings," and number of "members." There were many disagreements as to how the particular pattern of stone should be classified.¹ As a granite cutter often worked several days on one stone, sometimes even several weeks, a difference in the computation basis for one stone made a serious difference in wages. These difficulties were never satisfactorily overcome. Diagrams were inserted in many scales to indicate the patterns to which the rates were to apply, and rules were laid down to be followed in computing prices. A special form was adopted by the national union to be followed by the local branches in drawing up scales.² It also became common for local unions to appoint committees of union men to "figure" prices with the employers for the individual workmen when these disagreed.³ But this did not secure the smooth working of the system. The men were often timid about disputing the employer's or foreman's figures, and many refused to serve on committees for "figuring" prices for fear of being "victimized." It was also found impossible to frame scales that would include

¹ See for example, *Granite Cutters' Journal*, January, 1877; May, 1883; October, 1886; January, February, December, 1887; January, 1888.

² Constitution, 1888, Art. XII, sec. 22; Bill of Prices issued by the National Union; also bills cited above for Quincy, Westerly, Denver, and New York; Bill of Prices for Concord, N. H., 1892; Bill of Prices for Richmond, Va., in effect May 1, 1900; Bill of Prices for Quincy, 1905-8.

³ *Granite Cutters' Journal*, August, 1882; January, 1888.

all work, and "stones not covered in the bill" often had to be made the subject of special bargains. The making of these special bargains was a fruitful source of dispute and the prices thus arrived at were often regarded by the men as reductions forced by the employer from the intended scale basis.¹ The unsatisfactory experience of both sides in the application of piece bills was an important reason for finally doing away with piece work in the trade.

There are several important predominantly piece-working unions in which rate differentiation does not follow physically measurable differences in product, or variations in pattern according to the number of well-recognized and easily ascertainable items present. Some of the best known piece-working unions work under scales which attempt to cover, by descriptive enumeration, every type or pattern for which a distinct rate is to be paid. In this group of unions are found the Glass Bottle Blowers' Association, the American Flint Glass Workers' Union, the Brotherhood of Operative Potters, the shirt and overall workers in the United Garment Workers, the Tailors, and the stove molders in the Molders' Union. All of these except the stove molders have national uniform lists.²

The price lists of the Glass Bottle Blowers, the Flint Glass Workers, and the Potters are by far the longest national lists maintained by American trade unions. It is the purpose of these unions to enumerate in the respective schedules the distinct patterns of ware already priced, and to use them as guides in the pricing of new or special patterns which appear in the intervals between scale revision. The normal types are entered in long descriptive lists, and provision is made in footnotes, particularly in the Bottle

¹ Granite Cutters' Journal, February, April, 1886; May, 1887.

² The national list of the shirt and overall workers is a minimum list only. The Tailors' national list is one which establishes no prices but is to be followed as to form in the framing of local price bills. The stove molders' lists are single shop lists but these are bound together in close district systems and in a loose national system.

Blowers' and in the Potters' scales, for minor variations in finish, lettering and weights, and for specific differences in pattern, such as extra wide mouths, or additional "handles," "legs," or "feet." This practice reduces the size of the body of the list, which is confined to the enumeration of the more fundamental differences in styles.

The three price lists of the Glass Bottle Blowers' Association make up the longest price list published by any American trade union.¹ Each distinct type of bottle is priced separately by the method of estimate and comparison and entered by name in the list. The list enumerates, however, only a part of the bottles which are actually made under it and have been priced by the union and employers. Bottles which are of the same type as those already named in the list and which are believed to deserve the same rate are not separately entered except at the request of either party.² New bottles are priced in the locality in which they first appear, by comparison with those already in the list, and these locally established prices are used until ratified or changed by the national joint wage committee.³

For the revision of the list and for the rating of ware the price of which is in dispute, and for other wage matters, joint wage committees meet twice each year. The first

¹ The union publishes its list in three separate books, one for hand-blown ware from tanks and open pots, which is the main list, one for hand-blown ware from covered pots, and one for machine-blown and pressed ware. The covered-pot list was added after the union took over the prescription bottle blowers from the Flint Glass Workers in 1901. The machine list was also added in 1901 (Proceedings of the Glass Bottle Blowers, 1901, pp. 17, 491). About one-sixth of the members are now working on machines. The union also has a small price list for its stopper-making and stopper-grinding branches, but these affect a very small number of members. This association has recently taken in a few caster place workers, a branch of the trade formerly controlled entirely by the Flint Glass Workers, and it adopts in convention a price list for them also.

² Wage Scale and Working Rules adopted by the G.B.B.A. and the National Glass Vial and Bottle Manufacturers' Association, Blast of 1908-9, Rules and Regulations, sec. 33; Wage Scale adopted by the G.B.B.A. and the Flint Prescription Manufacturers' Association, applying to covered pots only, Blast of 1908-9, Rules and Regulations, sec. 34.

³ Wage Scale and Working Rules 1908-9, sec. 42; Wage Scale and Working Rules, applying to covered pots only, 1908-9, sec. 43.

meeting, known as the "preliminary conference," is held several weeks before the convention of the union, to consider changes in or additions to prices or working rules suggested by either side.¹ The union committee reports the results of its preliminary conference to the convention, and after the convention the union conferees meet the manufacturers' committee in the final conference to take up matters which were not agreed upon in the preliminary conference or in which the action of the first conference was not ratified by both associations. The union view is that the list may not be changed except by mutual agreement.² No more elaborate procedure for keeping a price list in working order is maintained in any trade. The officers of the union say that the preliminary conference is a necessity if prices are to be made by the conference method, and think that the conference method is vital to the maintenance of a satisfactory piece-price system.³

The Flint Glass Workers' scale problems are very much like those of the Bottle Blowers, and prices are fixed by the

¹ No changes or additions may be made at the final conference which have not been considered at the preliminary conference. Each side must notify the other in advance of the preliminary conference of the changes or additions it desires (Proceedings, 1897, pp. 36, 101; Minutes of Final Machine Conference, July, 1907; Wage Scale and Working Rules, 1908-9, secs. 55-57; Wage Scale and Working Rules, applying to covered pots only, secs. 55-57).

² The final conference has not always resulted in the signing of the scale. In 1905 the scale was not signed and the union decided to enforce the 1904-5 scale with the changes agreed upon before the adjournment of the conference. The same thing was done in 1906 for 1906-7 (Proceedings, 1906, p. 17; Proceedings, 1907, pp. 19-24). The scales for 1907-8 and for 1908-9 were signed in the final conferences.

³ Proceedings, 1900, p. 46. The practice of holding preliminary conferences was begun in 1897 for the open pot and tank list (Proceedings, 1897, pp. 36, 101). In 1901 the majority of the flint prescription blowers withdrew from the American Flint Glass Workers' Union and joined the Glass Bottle Blowers' Association, and in 1902 preliminary conferences were begun with the manufacturers of flint ware (Proceedings, 1902, pp. 21, 46). A preliminary conference for the machine jar and bottle list also has recently become an annual fixture (Proceedings, 1905, p. 63; Proceedings, 1906, p. 62; Proceedings, 1907, p. 54; Proceedings, 1908, p. 40).

same method of comparison and estimate.¹ In 1887 the union adopted the practice of conferring, after the annual convention, with the representatives of the manufacturers on the wage lists of the several departments.² Prior to that year the lists had been made up in convention and the local unions had tried to enforce them as adopted by the convention. The president of the union said at the time this new practice was inaugurated, "Settlements by the new policy will always be more thorough, better understood, and less liable to violation."³

In 1888 the Prescription and Chimney departments adopted the plan of conferring with the manufacturers on additions and revisions desired before the list was acted upon in the convention.⁴ The practice of holding preliminary conferences then spread to the other departments, and in most departments this became an annual practice.⁵ The union policy in this respect, however, underwent change in 1897. In that year the preliminary conferences were

¹ In 1897 the president of the Flints described the method of setting prices by comparison, with intent to bring the labor cost of each article into harmony with that of every other article on the same list, as "an old established principle of every department of our association" and "a principle which can not be overthrown" (Proceedings, 1897, pp. 50-53).

² The Flint Glass Workers' Union is made up of sixteen departments. All but the mold-making department have piece rates, though both piece and time systems are used in the Cutting department. In February, 1909, the sixteen departments were, in the order of their numerical strength, (1) Pressed Ware, (2) Chimney, (3) Cutting, (4) Bulb, (5) Paste Mold, (6) Mold-Making, (7) Caster Place, (8) Punch Tumbler and Stem Ware, (9) Iron Mold, (10) Machine Jar and Bottle, (11) Shade and Globe, (12) White Liner, (13) Insulator, (14) Prescription, (15) Engraving, (16) Stopper Grinding (Quarterly Report of National Secretary, for the three months ending February 28, 1909). Each department has its own price list or "wage and move" list, a "move" being the number of pieces to be made in a half day.

³ Proceedings, 1888, p. 32.

⁴ *Ibid.*, pp. 32, 57, 86, 88, 89.

⁵ Proceedings, 1891, pp. 165, 178; Proceedings, 1892, pp. 15, 17, 19, 25-33, 47, 53; Officers' Reports, 1895, pp. vii-xix. No conference was held in the Caster Place department prior to 1895 (Proceedings, 1892, p. 56; Officers' Reports, 1895). It was not customary to hold a conference in the Cutting department (Proceedings, 1897, p. 30). In the Stoppering and Electric Bulb departments and, at that period, in the Paste Mold department, preliminary conferences were not held annually, but only as occasion required.

omitted in several of the departments, and the president of the union informed the convention that he did not think the preliminary conferences were of enough benefit to warrant the expense.¹ Preliminary conferences were held less regularly and less generally thereafter.² In 1902 the president again declared his belief that the good accomplished by the preliminary conferences was not equal to their cost, and reported that the manufacturers had expressed the same opinion at the last conferences. He advised that three of the four departments which were then regularly holding such conferences should give up the practice.³ All three voted to do so in the same convention.⁴ Proposals for changes in the lists are now sent into the national office before the convention, acted upon there by the departments concerned, and the lists finally settled in conferences with the employers after the adjournment of the convention.

The systems of piece-rate making just described are successful in that they establish and maintain wage payments for diversified products with sufficient uniformity in the various localities where the trade is established to prevent disputes serious enough to lead to strikes. However, many difficulties have been encountered in the fixing of prices, involving anxiety on the part of the union lest misunderstandings occur in pricing new or special ware locally, or

¹ Proceedings, 1897, pp. 30, 34.

² Officers' Reports, 1899, p. 20. Preliminary conferences were held in 1899 in the Prescription, the Chimney, and the Shade departments. The Pressed Ware and Iron Mold departments voted in the 1898 convention to abolish them (*Ibid.*, p. 20; Proceedings, 1901, p. 49; Proceedings, 1902, p. 104).

³ Proceedings, 1902, p. 104.

⁴ *Ibid.*, pp. 181-2, 295, 305. The Chimney department also voted to abolish annual preliminary conferences. However, a preliminary conference was held in that department in 1908, and other mid-year conferences have been held (Proceedings, 1902, p. 363; Proceedings, 1904, p. 123; Proceedings, 1906, p. 16; Proceedings, 1908, p. 32). A preliminary conference was held on the machine jar and bottle list in 1908 (Proceedings, 1908, p. 29). Conferences have also been held at various times during the last year in several other departments; but these have not been called to consider itemized revisions of the list, but to decide disputed prices for new work or other price disputes, or for general matters such as percentage advances, sliding scales, summer stops, and regulation of machinery.

some ware, through differences in interpretation, be graded lower than is contemplated by the scale. Such difficulties must exist in the absence of physical standards for the identification of product for rating, and for guidance in fixing comparative prices.

The officers of the Glass Bottle Blowers' Association have from time to time felt keenly the force of these difficulties in the way of maintaining a smoothly-working price list, and have frequently urged the Association to seek some system of pricing that would eliminate or reduce them. In 1900, for instance, the president of the union told the convention that at the May conference in that year prices had to be fixed "on a store box full of samples" and that three days had been given up to wrangling over them. He then advised the convention, "If our list is not sufficiently plain to enable a blower to know the exact price of the ware he is making it should be altered and simplified, as this means not only a saving in time and money but also more harmonious relations between the employer and the employee."¹ The suggestion was made that a list might be constructed on the basis of the weight of ware alone, and a committee was appointed to consider a revision of the list as it stood, and to include in its consideration this suggestion for reducing pricing to a basis of weight.

The purpose of the committee as described by the president was to reach "a comprehensive plan which would make it possible for every man to know the exact price of the bottle he is making, or the list basis for that bottle from which he can figure the price." At the final wage conference following the convention the employers appointed a similar committee to meet with the union committee, for a joint overhauling of the list in order to remove ambiguities and make the list thoroughly comprehensive and consistent.² The workers' committee decided against a list based upon weight alone; it was opposed to adopting such a list unless

¹ Proceedings, 1900, pp. 46, 67-69, 90.

² Proceedings, 1901, p. 27.

the same basis should be applied to all lines of ware, with possibly a few exceptions of peculiar design or odd shapes, and many members were against doing away with capacity as a qualification of weight, largely on account of the reductions it would involve in the prices of some bottles.¹ The joint committee was also unable to agree on an itemized revision acceptable to both sides.² The president of the union in his report to the 1902 convention again advised that the list "sadly needs revision" and regretted that such a revision then seemed impossible. He expressed the hope that a more generous sentiment would be developed by both sides so that "a more plain and equitable basis of listing all kinds of ware" might be adopted.³ A thorough revision has not yet been effected though the list has been somewhat simplified.⁴

Troublesome questions in the fixing of prices arise from time to time, and disputes and misunderstandings in the local application of the list continue to vex.⁵ The president of the union has frequently complained that the list was not satisfactorily applied locally and that the branches of the union do not make thorough attempts to price bottles from the regular list before sending them in to the preliminary conference for settlement, but in this respect also there has been improvement.⁶

¹ Proceedings, 1900, pp. 60, 61; Proceedings, 1906, p. 63. Some kinds of bottles, however, as for instance, olive bottles, have a price list varying with weight alone, except for a few special bottles mentioned by name and given other prices than the straight weight prices.

² Proceedings, 1902, p. 47; Minutes of the Preliminary Conference, May, 1902, pp. 19, 20.

³ Proceedings, 1902, p. 47.

⁴ Proceedings, 1903, pp. 18, 83; Proceedings, 1904, p. 19.

⁵ Proceedings, 1900, pp. 67-8; Proceedings, 1905, p. 17; Wage Scale and Working Rules, blast of 1904-5, sec. 7; Wage Scale and Working Rules, blast of 1908-9, sec. 31; Minutes of Preliminary Conference, May, 1902, p. 20; Report of Proceedings of Joint Wage Committee, 1903; Minutes of Preliminary Conference, 1904; Blowers' Reports of Final Wage Conferences, 1907 and 1908.

⁶ Disputes arising during the blast as to rules, regulations, and prices in the list are decided by the president of the union, his decision standing unless reversed or modified at the next wage conference. This plan was first adopted at the 1902 preliminary conference.

In the Prescription department of the Flint Glass Workers' Association, which was made up of bottle blowers and so offers the strongest analogy to the Glass Bottle Blowers' Association, the preparation of a satisfactory list was not found less difficult nor the application of the list any more harmonious or uniform. In his report to the 1892 convention the president of the union stated that many of the listed bottles were not sufficiently described, and were not known "outside the Prescription committee room and the particular factory in which they are made."¹ He complained further that there had been disputes in all parts of the union's jurisdiction regarding the variations in price to be made for differences in capacity. In many instances the disputed bottles exceeded or fell below the capacity of the nearest bottle on the list, and in nearly all cases the manufacturers contended for a settlement on the basis of the lower capacity. He added, "The position of the manufacturers may be attributed in most cases to the absence of any definite rule on the point in question." In 1898 the president called attention to the "inconsistencies and ambiguities" in the list due to the great number of bottles identified only by name and number. He urged that the Prescription department should revise its list, "making it clear, making all its parts agree, removing duplicate bottles, and simplifying it wherever it can be simplified."² The withdrawal in 1901 of a very large part of the Prescription department members to join the Glass Bottle Blowers' Association

ference to provide for the decision of disputed points in the rules, but was later extended to cover prices. The resolution adopted in May 1902 read: "Whereas it appears that there is often an honest difference of opinion in regard to the interpretation of some of the rules and regulations adopted even among the members of this joint body; therefore be it, Resolved, that all information wanted in regard to the intent or meaning of the rules and regulations shall be referred to the President of the Blowers' Association, whose decision in such case shall be binding until said decision shall be reported to and reviewed by the Joint Conference" (Minutes of Preliminary Conference, May, 1902, p. 21). See also Proceedings, 1908, p. 39; Blowers' Report of Final Wage Conference, 1908, pp. 14-15, 21, 22; Wage Scale and Working Rules, 1908-9, sec. 57.

¹ Proceedings, 1892, pp. 20, 21.

² Proceedings, 1898, p. 43.

greatly reduced the relative importance of its list problems for the general officers of the Flint Association.¹

The Prescription department did not stand alone in its difficulties. Pricing by the method of comparison led to "inconsistencies and ambiguities" in the lists of the other departments, particularly in the Pressed Ware, Iron Mold, Paste Mold, and Shade lists. For instance in 1896 the president reported that some houses were getting 1,110 tumblers made for the price that other houses were paying for 825. He recommended that a rule should be adopted for the classification of common tumblers on the basis of dimensions and weight.² Entire uniformity on this kind of ware was not reached until a uniform classification on the basis of capacity was adopted in 1901.³

The necessity of fixing the price of new work appearing during the blast by local determination has also made difficulty in keeping prices standard. The prevailing rule is that such new work shall be priced in the locality in which it is first made if the factory committee and the manufacturer can agree on a price; if not, the price must be fixed in a joint wage conference.⁴ The local union affected by a price so established is required to report it at once to the national officers, who inform the trade of the price established.⁵ This system requires great care if non-uniformi-

¹ At the time of the 1908 convention no membership was given for the Prescription department (Proceedings, 1908, p. 75). In the Quarterly Report of the National Secretary for the three months ending February 28, 1909, its membership is given as thirty-nine.

² Proceedings, 1896, p. 63.

³ Proceedings, 1901, p. 49. Similar instances have occurred in this and other departments. See Proceedings, 1892, pp. 45-46; Proceedings, 1903, p. 120; Proceedings, 1907, p. 54. In 1901 the manufacturers presented a revised list in the Paste Mold department in order to remove "incongruities." The workers objected that the proposed list was not itself harmonious and it was not adopted (Proceedings, 1901, p. 42).

⁴ Constitution, 1895, Art. X, sec. 2; Constitution, 1907, Art. XVII, sec. 2.

⁵ If no agreement is reached locally or if the price established locally is considered too high by any other manufacturer or too low by any other local union it is referred to a joint wage conference for settlement. Several joint conferences for the settlement of new prices or disputed prices, in addition to the annual conference following the convention for the establishment of the list, may be held during the blast. Either side may call a conference at short notice.

ties are to be avoided. Local unions have frequently neglected to report the new pieces and prices with sufficient explicitness, with the result that the same work has been priced less elsewhere.¹ The president of the union has several times urged the necessity of having new work properly listed and promptly reported to the trade in explicit terms.² It is now the practice for the branches to refer the unlisted article to the national office to ascertain if there is any record of a similar article having been priced at another factory since the publication of the wage list.

Difficulties have frequently arisen in distinguishing various pieces named in the price list. In 1892 the president of the union pointed out that it was hard to identify certain lines of ware in the Iron Mold list and recommended the preparation of an illustrated catalogue to accompany the list.³ In the same year the Shade and Globe committee adopted in conference a plan to number shades and globes instead of entering them by name and to publish a new catalogue containing a drawing of each piece with its number.⁴ At the convention in 1897 the Paste Mold committee also recommended "the printing of an illustrated catalogue of the articles produced by the Paste Mold department, giving weights, dimensions, moves, and wages."⁵ But difficulties in classification and identification were not ended by this action.⁶ In 1903 the president urged the Iron Mold department to make its list more explicit and "readjust its incongruities."⁷ In 1902 he stated that "the Caster Place list as it is now compiled is confusing and misleading."⁸

¹ Officers' Reports, 1895, p. 11; Officers' Reports, 1899, p. 37.

² Proceedings, 1901, p. 57; Proceedings, 1903, p. 122; Proceedings, 1904, p. 25; Proceedings, 1906, p. 7.

³ Proceedings, 1892, pp. 36-38.

⁴ Ibid., pp. 38, 53, 147.

⁵ Proceedings, 1897, p. 198.

⁶ Proceedings, 1902, pp. 28, 42; Proceedings, 1907, p. 16.

⁷ Proceedings, 1903, p. 120.

⁸ Proceedings, 1902, p. 43. In 1904 the National Association of Manufacturers of Pressed and Blown Glassware in proposing a joint committee to revise and classify the different lists, said: "They have become so large and cumbersome that they are in many cases self-contradictory and misleading. By classifying all

The necessity of providing for the settlement of questions arising in the application of the list to particular cases entails an appreciable burden upon the union and forms a part of the cost of keeping up a workable piece system. By 1895 courts of appeals had been established in the Chimney,¹ Prescription, Pressed Ware, and Iron Mold departments for the settlement of such disputed points.² At present the practice has become general in all departments, except in the Chimney department, which still retains its court of appeals,³ to refer such disagreements as can not be settled locally to the joint wage committee of the department.⁴ In 1904 the president of the union, referring to the necessity of adjusting disputes in this manner, said, "The system has added to our expense, yet I confess I do not see how we can avoid it with safety to our interests."⁵

The experience of the Potters also illustrates the difficulties encountered in applying directly the measure of comparative time.⁶ The policy followed has been to fix new prices by comparison with the time required to do other work on the list already priced. The estimated time required is subject to change, but comparison in physical char-

articles according to size, weight, and measurement, and considering the different shapes as to the relative difficulty of making the goods the list could be very much simplified and much more easily understood" (Proceedings, 1904, p. 83).

¹ Reports of Officers, 1895, p. xxi; Proceedings, 1896, p. 50.

² Constitution, 1895, Art. X, sec. 6.

³ Wage and Move List of Chimney Branch, 1908-9, Rules 13 and 14.

⁴ See above, p. 39, note.

⁵ Proceedings, 1904, p. 18.

⁶ The Potters' system of making lists in conference is more recent than and lacks the established regularity of that of the Bottle Blowers and the Flint Association. There is no provision for regular preliminary conferences. The scale has in recent years been signed for one year in the sanitary branch and for two years with respect to general ware. Ware not covered in the list is priced locally; in case of dispute a ruling is made by a joint standing committee, and prices set by the standing committees become part of the list. There is one of these committees for the sanitary branch and two, an Eastern and a Western Standing Committee, for general ware (Wage Scale and Agreements between the Sanitary Manufacturing Potters' Association and National Brotherhood of Operative Potters, adopted November, 1907; Wage Scale and Agreements between the United States Potters' Association and National Brotherhood of Operative Potters, effective after October 1, 1907).

acteristics when used as a basis has yielded unsatisfactory results. There has been difficulty too in applying the scale because of the introduction of slight differences in design which the manufacturers have contended did not warrant any change in the rate by way of addition, and because of misunderstandings in interpretation.¹

The difficulties which have been experienced by these three unions, particularly by the Bottle Blowers and the Flint Glass Workers' Union, illustrate the seriousness of the problem of making comprehensive and clear uniform price lists to be applied over a wide territory, when the product is subject to numerous variations in pattern and design and when the comparative time required must be estimated separately for each particular variety. The liability to disagreements and non-uniformities is inherent in the system. Yet all three of these unions continue to work under the piece system and to direct their efforts to overcoming in so far as may be possible these technical difficulties. The unions prefer to work under the piece system in spite of its inherent difficulty. That they do this and that they and their employers remove the difficulties where they can and put up with them when they cannot, indicate that in these particular cases at least piece work as such is not opposed by the unions. It also illustrates the degree to which the two parties to the wage bargain will overlook minor variations from intended standards when both are anxious to maintain the general basis of agreement.

Forms of price lists providing for pattern diversification and intended for national application but much shorter than those just considered are also maintained in the clothing trade. The Garment Workers have a national minimum scale, agreed upon in conference, for work upon shirts and overalls. Each distinct style or pattern has its price and specific additions are stipulated for many specified "extras." The certain application of the rate to the particular type of garment for which it is intended is assured by the

¹ Proceedings, 1906, p. 5; Reports of President and First Vice President to 1908 Convention, 1908, pp. 24-25.

filing of sample garments which are referred to in the list as "exhibits A," "B" and "C," etc.¹

The Tailors' price lists are made locally and the prices vary from locality to locality, but there is a close approach to uniformity in the form of the scales. Disputes over the interpretation of local scales in matters of styles, materials, etc., had become so frequent that in 1905 the secretary urged the convention to formulate a price bill which should be uniform throughout the jurisdiction of the union, if adopted by referendum. The convention adopted the recommendation and after ratification by the members, a committee was appointed to draft a bill,² to be uniformly observed in all respects but prices, which were to be left to the local unions.³ The uniform bill, so reported, was adopted by referendum vote,⁴ and at the 1907 convention the secretary reported that the local unions generally were following it with very satisfactory results.⁵

The experience of the stove-molding branch of the iron-molding trade in framing and applying price lists has been an interesting one. Each shop has its own separate list in which the price of each distinct pattern made in the shop is entered. In the early days of stove molding in this country the castings were paid for by weight.⁶ The growing diversification in the patterns of stoves made it soon necessary, however, to fix separate prices for each kind of stove, and thereafter, as the subdivision of the work in the making of stoves proceeded, for each piece of the stove.⁷ The union also threw its influence in favor of payment by the individual piece.⁸ There were many inequalities in prices

¹ General Secretary's Report of the Joint Wage Scale Conferences, held July, 1905, January, 1906.

² Proceedings, 1905, in *The Tailor*, February, 1905, pp. 9, 58, 59.

³ *The Tailor*, August, 1905.

⁴ *Ibid.*, December, 1905.

⁵ *Ibid.*, March, September, 1906; August, 1907, p. 4.

⁶ *Iron Molders' Journal*, March 1875; July, 1876; January, 1888, p. 4; March, 1902, p. 129.

⁷ In the price list of the Cincinnati union in 1866 separate prices are given for the pieces and the price of the stove as a whole is also given (*International Journal*, October, 1866, p. 223).

⁸ President's Report to the Thirteenth Session, in *Iron Molders' Journal*, July, 1876.

of stove castings even in the same shop.¹ In 1862 the Philadelphia local union, the oldest and best organized in the trade, with a membership of 440, gave up a demand for a general increase on all castings for an "equalization of stove prices . . . bringing the lower up to the higher."² In 1875 the president of the national union urged the local unions to insist that all prices should be ratified by the shop committee and entered in a price book in the shop.³ Some inequalities were still in evidence⁴ when in 1893 the national union made an agreement with the Stove Founders' National Defense Association under which price advances or reductions were to be uniform percentages of the prices then existing in the various shops. Means were also provided for adjusting prices.⁵

The system of pricing new work which has prevailed since 1893 under this agreement is as follows:⁶ If work "of similar character and grade" has already been made in the foundry the new work is priced by comparison with it. "When there are no comparative stoves made in the shop the prices shall be based upon competitive stoves made in the district, thorough comparison and proper consideration being given to the merits of the work according to the labor involved."⁷ New work is not priced until it has been made for at least six days, and the price committee is required to consult the molder working on the new work before fixing on a price for it. These two rules adopted by the convention in 1907 made universal a widely prevalent practice.⁸

¹ International Molders' Journal, July, 1866, p. 240.

² Iron Molders' Journal, June, 1874, p. 385; May, 1881.

³ Ibid., September, 1875, p. 426.

⁴ Ibid., January, 1887, p. 4.

⁵ Conference Agreements in Force and Ruling between the Iron Molders Union of N. A. and the Stove Founders N. D. A., issued June, 1907, Clauses 8, 14. The system of collective fixing of prices in the stove trade is described in detail by John P. Frey and J. R. Commons in the Bulletin of the Bureau of Labor, No. 62.

⁶ Under an agreement in force until 1907 the Stove Mounters and the Defense Association set prices by the same method (Agreements in Force between the S. F. N. D. A. and the Stove Mounters and Steel Range Workers' International Union, Clauses 5, 7, 8).

⁷ Conference Agreements, Clauses 7, 14.

⁸ Proceedings, 1907, pp. 125, 200.

When the shop committee and the employer or his foreman cannot agree on a price it is referred for adjustment to two representatives, one from each of the national organizations concerned. Final appeal lies to the national joint conference committee which also determines all large questions relating to wages.¹

The system followed in the stove trade for making and applying piece prices locally, in general conformity with a scheme of national scope and of district uniformity, makes piece pricing very nearly exact and removes the liability of strikes on account of particular prices. It has been urged within the union from time to time that weight or measurement be adopted as a guide, in order to do away with difficulties and differences emerging under the present system.² Neither of these measures have commended themselves as practical except as guides in using prices already agreed upon as a basis for the prices of similar parts of larger or smaller stoves of the same pattern. The necessity still remains of pricing the initial piece. "The pricing of stove-plate molding can never be reduced to an exact science; the union must rely on comparisons with similar stoves whose molding price is conceded to be equitable and upon the intelligence and experience of price committees and superintendents."³

Materials used.—The second grand cause of differentiation in the piece price, standing next in order of importance to differences in the shape, pattern or dimensions of the product, are differences in the materials worked. Rate differentiation according to the material used, irrespective of variations in the dimensions or shape of the product are

¹ Conference Agreements, Clauses 2, 3.

² Iron Molders' Journal, May, 1886; January, 1887; February, p. 70, July, 1902.

³ Ibid., April, 1902, p. 206. In commenting on this statement a member a few months later wrote to the Journal that if each member of a moulders' pricing committee should write the price of the piece in question on a separate piece of paper independently, no two of the prices thus separately made would be the same (Ibid., July, 1902, p. 379).

common.¹ In some of the unions the differences in rates to be made for differences of this nature give comparatively little trouble, because one material is used almost exclusively, or because the different materials are well known and clearly distinguishable. In other trades some of the chief difficulties in rate adjustment and in the enforcement of a uniform rate have been caused by differences in materials.² Though the variations in materials are but a fraction of those in dimension or pattern, the addition or subtraction to be made to prices when a new material is used gives much more trouble than the setting of a price on a new pattern, since in most instances the price differentiation for a material will affect wages more than that for a single pattern, and each side is therefore less likely to be inclined to give way even a little. The proper differential to be granted is also difficult to determine. As comparative difficulty in working different materials cannot be estimated by physical measurement, the estimated time required for production has to be relied upon directly as a measure. But production time is a more variable standard in different plants when applied to materials than when applied to patterns. Once the price differential for a given material is established in the scale, however, there is less room for misunderstanding than in the case of different patterns.

The questions of rate differentiation which have disturbed the Iron, Steel and Tin Workers have been almost entirely over materials. The variations according to dimensions follow comparatively simple lines, and this and the greater effect upon earnings of price differentials according to materials used have made the latter relatively important, particularly in the "boiling" or "puddling" division. In

¹ In addition to the variations to be noticed in puddling, in rolling iron and steel, and in cigar making, there are difference in rates for differences in materials in the scales of the Tailors, the Elastic Goring Weavers, the Mule Spinners, and the Glass Bottle Blowers, and in the local price lists of some branches of the Boot and Shoe Workers.

² This is true, of course, in those unions whose rates vary with materials rather than with patterns, like the miners, the puddlers, and the longshoremen.

this division there is no question of form or pattern; payment per ton is made for working metal through a process, not for reducing it to given shapes or dimensions. The rate per ton for boilers or puddlers was made originally on the assumption that pig iron of known grade should be worked and the first scales provided for this alone.¹

The manufacturers soon began to introduce other materials to be worked with pig iron, or in place of it, and often these substitute materials were mixed. This practice gave rise to disagreements as to the prices to be paid, and consequently to the need of providing standard rates for these several materials and mixtures. As early as 1871 there was a bitter local dispute as to the rate to be paid for a certain kind of iron, and the men were sustained by the union in their fight for a differential price.² By 1875 it had become important that the prices to be paid for working "castings," "hoop iron," and "scrap" should be put in the scale. In the convention of that year a committee of the union pointed out that these materials involved extra work and should therefore carry extra compensation, and recommended that uniformly higher prices should be adopted for them.³ The prices to be paid were not settled, however, until five years later. In 1877 the question of what price should be paid for working physic iron was brought before the convention. The convention ruled that it should be rated at one-fourth more than common iron.⁴ From 1881 to 1908 five prices were added to the scale for materials rated higher than common iron, and prices were also added for materials rated at less than the common boiling price.⁵

¹ The boilers were then organized in the National Forge of the United Sons of Vulcan, which was one of the organizations merged into the Amalgamated Association. The first two scales are given in the Annual Report of the Bureau of Industrial Statistics, State of Pennsylvania, 1878-9, p. 152; the scale for 1879 is given in the Proceedings of the Amalgamated Association of Iron, Steel and Tin Workers, 1880, Appendix.

² Vulcan Record, Vol. I, no. 9, p. 10.

³ Ibid., Vol. I, no. 16, p. 57.

⁴ Proceedings, 1877, p. 83.

⁵ Pittsburgh Scale of Prices, June, 1881-June, 1882; Western Scale of Prices, 1908-9.

This evolution has been marked by many disputes, the emergence of many vexing questions for officers and conventions, and the introduction of many rates of an experimental and temporary character. One of the most troublesome of these questions has been as to the price to be paid for mixtures of two materials already rated.¹ The convention of 1894 added a clause to the scale to the effect that when mixed material not provided for in the scale is worked, the price shall be the mean price between those of the materials used.² In spite of this provision and in spite of much classification of materials and mixtures, disagreements as to the price to be paid for particular mixtures have been frequent.³

Another important question of rate differentiation to meet a difference in materials was raised in the finishing divisions of the Amalgamated Association when the practice began of rolling steel in what had been iron mills. The question first came up for consideration in the 1880 convention, when a resolution was unanimously adopted that in mills not working steel as a specialty "price and one-half" should be paid.⁴ In 1884 it was provided that "iron mills (except sheet mills) working steel shall pay price and one-half for steel, except mild steel, that is steel of which the output is as great as the output of iron when working the same sizes, but when the output of steel is but three-fourths the output of iron the rule price and one-half shall apply."⁵

¹ For instance, the price to be paid for mixing swarth with scrap was hard to settle. It was before the convention several times, and in 1887 the president urged the fixing of a special rate for it. The convention did not set a standard rate then and the question continued to make trouble (Proceedings, 1885, pp. 1564, 1573; Proceedings, 1886, p. 1795; Proceedings, 1887, p. 1948; Proceedings, 1893, p. 4231).

² Proceedings, 1894, p. 4653. This did not apply to metal, which was rated at fifty cents above the boiling price.

³ For example, Proceedings, 1895, p. 4889; Journal of the Annual Session, 1902, p. 6434; Journal of the Annual Session, 1903, pp. 6704, 6715, 7022.

⁴ Proceedings, 1880, pp. 444, 971; Pittsburgh Scale of Prices, 1881-1882; Wheeling Scale of Prices, 1881-1882.

⁵ Pittsburgh Scale of Prices in Rolling Mills, for the year ending May 31, 1885.

This rule as to the price differential for steel did not settle the question. The president of the union reported in 1886 that there was no uniform price observed for working steel and that the question of the price to be paid gave rise to many disagreements. The policy of the union had been, he said, to ask more for steel than for iron on the ground that the same output could not be reached, especially on rolls adapted particularly to iron, but some of the members had been spurred on by the higher prices to greatly increased outputs and had so jeopardized those prices. He asked that the price for steel be so fixed as to avoid further disputes.¹ The scale was then changed for one class of finishing mills so as to make the price the same as for rolling iron.² The output gradually increased, with the result foretold by the president. By 1902 the rates for finishing steel had dropped slightly below that for iron.³ In 1906 there was another reduction in steel rates as compared with those for iron.⁴ In the sheet mills, too, a higher price was maintained down to 1904 for steel than for iron for rolling the lighter gauges.⁵

The piece scales of the Cigar Makers have long varied with the materials used. The price lists call for higher prices for "mixed seed and Havana" than for "seed," that is, domestic tobacco, and still higher for clear Havana fillers. The quality of the wrapper also enters at times as a determinant.⁶ The higher prices for the finer materials are dictated by the necessity of more careful workmanship, but also by the fact that the manufacturer obtains a higher price proportionately for such cigars.⁷ The Cigar Makers have

¹ Proceedings, 1886, p. 1756.

² Ibid., pp. 1825, 1861.

³ Western Scale of Prices, for year ending June 30, 1903.

⁴ Amalgamated Journal, June 21, 1906. Where the output of steel is but three-fourths the output of iron the price is still one and one-half the iron price (Western Scale of Prices, 1908-9).

⁵ Western Scale of Prices, 1903-4; Western Scale of Prices, 1904-5.

⁶ List of Shops and Bill of Prices under the jurisdiction of Union 97, Cigar Makers' International Union of America, Boston, Mass., Compiled February 20, 1908; Bill of Prices of Cigar Makers' Union, No. 1 of Baltimore, 1908.

⁷ The journeyman cigar maker is expected to be able to make any of the cigars that are to be made, and on the higher-priced ones his

comparatively little trouble now in enforcing this differential, but such was not always the case. The Baltimore Cigar Makers in March, 1880, adopted a resolution that "no old jobs disguised as new ones be allowed to come into the shops for less than the original price."¹ During the spring of that year several strikes occurred because employers attempted to enforce the common cigar rate for "seed and Havana" cigars.²

Physical conditions.—Closely analogous to the adjustment of rates to take account of differences in materials is the establishment of differentials to meet differences in physical conditions which make the performance of the worker's task more difficult for each unit. Differences of this kind are comparatively rare. In most piece-working unions with national or sectional scales the conditions for production are assumed to be standardized, and if appreciably departed from, special provisions for payment, not differential piece rates, are to apply. In some trades, however, there are conditions which it is difficult to reduce to uniformity and which affect directly the difficulty of reaching output. In bituminous coal mining, for instance, the thickness of the vein is such a condition, strongly resembling the character of the materials worked as a variant. Differing rates for mining according to the thickness of the vein are common.³ More obvious instances appear where the piece worker's task is loading, unloading, moving or packing the product. The Longshoremen's rates on the Great Lakes for

earnings will be greater per day than on the lower-priced ones. The higher are not reduced to yield only the same earnings as the lower partly because the higher are felt to compensate in the long run for some of the "poorer jobs" and partly because it is felt that the employer can afford to pay more for them.

¹ MS. Minutes of Baltimore Cigar Makers, March 18, 1880.

² Ibid., May 7, May 14, May 28, 1880; Cigar Makers' Journal, March, 1883.

³ The Indiana scale provides, for instance, that all coal less than 3 feet 3 inches and more than 2 feet 9 inches in thickness shall pay \$.98 per ton, as against \$1.06 per ton for coal from 2 feet 9 inches to 2 feet in thickness (Terre Haute Agreement between Indiana Bituminous Coal Operators and United Mine Workers of America, District Number 11, 1908).

unloading vary with the hold measurements of the vessel, and are higher for boats over three feet from the dock. Double the ordinary rate is paid for unloading ore from a wet boat.¹ Similar differences appear in the Chicago Brick Makers' rates for loading and unloading bricks.²

The Hatters' price lists offer an interesting departure in the classification of the product for rate differentiation. The hats are differentiated in rate according to the materials used. But this is not entirely the case, and the different rate classes are commonly entered in the list in terms of the selling price of the hats, so that physical standards are lacking for the pricing of new work or the settlement of disputes as to proper rate classification.³ Moreover, the rate differentiation is not based on comparative difficulty alone. As in the case of the Cigar Makers, the more highly-priced grades are expected to return higher earnings to the worker in proportion to the time required. A price list of this character naturally is difficult to apply with smoothness. Disagreements as to the grades to which hats rightfully belong have arisen frequently, the men contending that the hats belonged to a more highly rated grade than that to which the employer assigned them.⁴

Price of the finished article.—Differentiation in rate according to pattern or materials is often not based entirely on comparative difficulty, and this fact is fully recognized

¹ Proceedings, 1905, p. 110; Agreement between International Longshoremen's Association and Managers of Docks at Lake Erie Ports, 1905.

² District Council No. 1, International Brick, Tile and Terra Cotta Workers Alliance, Working Rules, 1907-10.

In the 1904 convention of the Boot and Shoe Workers the president reported that the workers were much dissatisfied in places because the piece workers had to wait between pieces of work and "to run from one part of the factory to another to assemble his work." An improvement in the system, he pointed out, is equivalent to an increase in wages. It is not the price per pair but what the worker can earn which is "the infallible determining factor as to the standard of wages" (Proceedings, 1904).

³ Journal of the United Hatters, April, 1899; Proceedings, 1903, p. 74; Proceedings, 1907, p. 117.

⁴ Journal of the United Hatters, October, 1899; August, 1900; July August, 1902; February, 1903; Minutes of Meeting of Executive Board and Proceedings of the Board of Directors, August 22, 1907.

by both sides. Other considerations, particularly the selling price of the different varieties, as has been noted, may enter to secure certain patterns or lines of product higher or lower rates than they would receive if rated according to the difficulty of producing them as compared with other work on the list. If these patterns or classes of product are clearly distinguishable no difficulty need arise in the application of the scale. But if such difficulty does arise it cannot be settled by reference to comparative time required for production.

Instances of higher prices in proportion to difficulty for the more valuable grades have already been noticed in the cases of the Cigar Makers and the Hatters. Cutters working under the piece system in the glove and in the boot and shoe industries are in some places paid proportionally more for the more valuable patterns. This is to induce them to secure a larger number of the more valuable "cuts" from the material than they would if prices were exactly in conformity with difficulty, and if high earnings could be made on the less valuable patterns as easily as on the more valuable. On the other hand, price considerations may keep the rates for some varieties of product below the level of wages which has been established for the list as a whole on the basis of time required. The Glass Bottle Blowers, for instance, were unable in 1906 to secure an increase requested on a particular line of ware in order to bring these rates to an equality with the rest of the list, because the manufacturers declared that the increased rates could not be paid on account of foreign competition.¹ A similar situation existed for years as to the differential to be paid for "turn mold" or "twisted" ware. In the 1899 preliminary conference the union attempted to establish a higher rate for turn mold than for ordinary ware on the ground that it was harder to make and at the same rates gave less earnings than other ware. The manufacturers would not agree to the proposed increase, arguing that turn-mold bottles could not be sold

¹ Proceedings, 1899, pp. 38, 39.

if the price were raised, as other bottles had been brought to such a high standard that they would be substituted for the turn-mold ware. The union representatives replied that "regardless of what the customer preferred a man ought to be paid according to the labor and skill expended." The following year the manufacturers again successfully withstood the same demand, using the same argument, and admitting that the blowing of turn-mold ware involved more work.¹ It was not until 1907 that an increase of ten per cent. for such ware was secured.²

The introduction of machinery has affected the blowers' rates on certain kinds of bottles, and certain shapes have been reduced in rate to meet the competition of the machine on the same ware. A very obvious case is that of fruit jars. When machine-blown jars were introduced into the trade in the late nineties the manufacturers of hand-blown jars asked for a reduction in rates to meet the competition of the machine-made jars. The union refused in 1897 to comply with the request, the president expressing the belief that it would be "a long time before the machine interferes seriously with our members in the jar trade."³ In 1898 it was apparent that some reduction would have to be made, and the amount of it was left to the discretion of the president. A reduction of from 35 to 45 per cent. was finally accepted.⁴ There had been, of course, no change in the difficulty of blowing jars as compared with other ware on the regular list. However, most of the men who had been blowing jars could not blow other lines of ware satisfactorily.⁵

The introduction of finishing machines affected the blowers' prices in the other direction. On ware not finished at the "glory hole" by the blowers, but finished in the machine,

¹ Proceedings, 1901, p. 10.

² Proceedings, 1905, p. 16; Proceedings, 1907, p. 165; Wage Scale, 1907-8, sec. 2. The fifty per cent. higher rate for opaque glass is purposely high because of the disinclination of the manufacturers to make that kind of ware.

³ Proceedings, 1897, p. 13.

⁴ Proceedings, 1899, p. 11; Proceedings, 1900, p. 93; Wage Scale, 1908-9, sec. 2.

⁵ Proceedings, 1898, pp. 11, 75.

the rate was to be five-sixths of the regular list rate, except on jars and some other specified lines of ware.¹ The work of which the blowers were relieved was more than one-sixth; it was close to one-third. The blowers would have shared in the advantage of the reduction of the difficulty of production secured by the machine, but comparatively little finishing is now done by the machine.

II

DEFINITION OF WORK

The standardization of what is to be done by the worker for the rate is complementary to the standardization of the rate for each variety of product in securing a uniform rate of payment. The need for defining in the scale the tasks included in the workers' rate is created usually by misunderstanding or non-uniformity in practice with respect either to (1) auxiliary work which may be done by the man who receives the rate but which it is not essential to the process that he rather than any other worker should do, or (2) the payment by the worker, instead of by the employer, of helpers or other assistants aiding or working under the direction of the man receiving the piece rate. Definition of the work to be done for the rate so as to exclude from it auxiliary or minor operations does not mean necessarily that the recipient of the rate will not perform any of this extra work; often it means that such work will not be done except for extra payment. In the latter case definition facilitates the application of the principle generally insisted upon, and sometimes expressly stated in the scale, of "extra work, extra pay."²

¹ Proceedings, 1900, pp. 52, 111; Proceedings, 1901, p. 13; Wage Scale, 1908-9, sec. 24.

² In the 1908 convention of the Shingle Weavers the president recommended the adoption of a rule to the effect that where the piece system was still worked local piece scales should be framed on the basis of the national time rates, "with a provision that wages be computed upon a certain sum above the day scale to cover the extra work for which pay is never given where it is necessary for members to do it on a piece work scale" (Proceedings, 1908, p. 25).

Auxiliary work.—In most cases what is to be done for the rate has been so well established in custom that there is little need to define it expressly in the scale. It is safe to assume, however, that the practice has not become settled without occasional vigorous protests by the workers against innovations. The Printers' local unions, for example, early adopted a rule that a printer was not to change matter that had been set up because of alterations in the copy, nor to distribute type he had not used, unless extra was paid for this work.¹ A strike of puddlers against an attempt to make them wheel their cinder, ore and "fix," and to clear out ashes, "so as to dispense with the usual force of laboring hands," occurred in 1875. The strike was successful and the custom of other mills in the district was followed in this regard.²

The Miners' scales commonly define what the miner is to do in addition to mining and loading the coal on cars. The Indiana miners agree with their employers that the miner's work "includes cutting the coal, drilling and blasting the same, loading the car at the face and properly timbering the miner's working place."³ The Illinois scale contains a like provision. In addition to mining and loading the coal on the car the miner's work includes timbering his work places and, in long-wall mining, brushing and care of the work places and roadway.⁴

The work to be done by piece workers who are engaged about furnaces, as in iron puddling and in the glass-working

¹ Barnett, p. 110.

² Vulcan Record, Vol. 1, no. 16, p. 31.

³ Terre Haute Agreement between Indiana Bituminous Coal Operators and United Mine Workers of America, District Number 11, 1906-1908.

⁴ Illinois State Agreement from June 1, 1906, to March 31, 1908, between the Illinois Coal Operators' Association and the United Mine Workers of America, Fourth District. The work to be done by the miner was made the subject of decision by a joint committee in 1901 (Report of Industrial Commission, Vol. XVII, p. 335). This decision was embodied in the scale in 1902 (Proceedings of Joint Convention of Illinois Coal Operators' Association and United Mine Workers of America, District 12, February-March, 1902, p. 9). A question arose in 1906 as to the drilling of extra holes (Minutes of the Convention, 1906, p. 176).

trades, seems to have been a considerable source of friction, because of a disposition to require the men to take part in preparing the furnaces or in looking after them when the "heats" are over. Sometimes the tasks of the worker have been defined in the scale primarily to safeguard the worker from what was felt to be an imposition; at other times a rule has been adopted to restrain individual workers from performing extra work about the furnaces in the fear that this might come to be included generally in the worker's task without increase in the rate. The Window Glass Workers' "working rules" state that assisting at the pot setting is part of the duty of blowers and gatherers,¹ but that no blower or gatherer is to get sand or clay or other material for pot setting, nor to turn pots or build furnace rings.² In the 1889 convention a resolution was adopted providing that if flatteners should mend flues or repair ovens they should have extra pay.³ The Amalgamated Association of Iron, Steel and Tin Workers adopted a rule in 1899 that any tin roller or member of his crew who should "clean, grease, or change rolls or other castings unless such work be paid for" should be fined for the first offense, and for the second offense be expelled from the Association.⁴

Definition is often necessary, too, where the worker's task includes, or might include, the moving of materials. The Brick Makers' Chicago scale stipulates the distance brick is to be wheeled for the rate; for distance in excess of that the employer furnishes an extra wheeler.⁵ At the 1907 wage conference the Potters and their employers discussed a pro-

¹ Constitution, 1908, Art. XVII, sec. 18; Report of Convention, 1884; By-Laws, 1886, Art. VIII, sec. 38. The Flint Glass Workers adopted a rule at their 1907 convention that members of the Paste Mold department were not to do pot setting unless paid for the time lost while doing it (Proceedings, 1907, p. 125).

² Constitution, 1908, Art. XVII, sec. 19; Scale, 1908-9.

³ Report of the Convention, 1889, p. 55; Report of Convention, 1884, p. 24. The 1884 convention adopted a rule that gatherers should not carry out rollers even when paid for it (Report of Convention, 1884, pp. 19, 32; By-Laws, 1886, Art. II, secs. 4, 30).

⁴ Proceedings, 1889, p. 5574.

⁵ Working Rules, 1907-1910.

posed rule that one hundred feet be the maximum distance which green saggars should be carried to the kilns. The manufacturers contended that in the majority of the plants the saggars were carried a greater distance, and that this had been considered when the prices were established. It was agreed that "unusual conditions" should be corrected, and the rule proposed by the saggermen was not adopted.¹ An amendment was made to the scale at the same conference providing that kilnmen and kiln drawers should not be required to "wheel, carry or throw out saggerheads."² The Amalgamated Association of Iron, Steel and Tin Workers' scale provides that all materials for busheling shall be placed within ten feet of the charging door.³

Payment of helpers.—Questions as to whether certain workers are to be paid by the recipients of the rate or as to what help is to be furnished to them by the employers, have occasionally demanded attention in a few trades. In March, 1856, the attempt of the employers to make the men pay for "stripping" led to a strike of the Baltimore Cigar Makers, the members of the union agreeing to refuse to work for any employer who insisted on the men paying for this operation.⁴ The Window Glass Workers in 1884 adopted a rule that no flattener was to pay any part of the "layer-out's" wages or that of any help employed in the flattening house.⁵ In the mule-spinning trade it has long been the custom for the spinners to pay the "back-boys" or to have the latter's wages deducted from the spinners' prices as fixed by the list.⁶ Sometimes there has been disagreement as to the amount to be withheld for this purpose from the spinners' earnings.⁷

¹ Reports of President and First Vice-President, 1908, p. 23.

² Scale in effect after October 1, 1907.

³ A rule was adopted in 1899 that pipe, and scrap and boiler plate must be cut into eight inch pieces or smaller (Proceedings, 1899, p. 5643).

⁴ MS. Minutes of Cigar Makers' Association of Maryland, February 21, March 10, 1856.

⁵ Report of Convention, 1884, p. 25; By-Laws, 1886, Art. VIII, sec. 23.

⁶ Fall River List of Prices for Mule Spinning, January 1, 1889; New Bedford Price List, 1908.

⁷ Report of National Spinners' Convention, 1907, p. 13; Report of Convention, 1908.

The window glass blowers and gatherers for years sought to induce the employers to assume the obligation of paying the snapper's wages. The blowers and gatherers did not think that they should be required to pay these workers from their own wages and the differing wages paid by members to the snappers added to their hostility to the system.¹ In 1892 the convention of the Window Glass Workers adopted the report of a committee which provided a scale to be paid to the snappers and imposed a fine on the blower or gatherer who should pay more than this.² In 1895 complaints were made that the snappers' wages were increasing, thereby reducing the wages of the blowers and gatherers, and the convention of this year adopted a resolution that the snappers' wages ought to be paid by the firms and that every effort should be made to have this rule established.³ The 1896 convention attached so much importance to this point that it voted that no settlement should be made with the manufacturers until they agreed to pay the snappers' wages.⁴ This rule was not then established, but in the settlement of 1900 the employers agreed to accept that arrangement.⁵

The payment of helpers or assistants by the man who receives the rate from the employer has been for years a prominent feature of the scale system of the Amalgamated Association of Iron, Steel and Tin Workers. Until very recently it was customary in many branches of the trade for the roller in charge of the crew on each set of rolls to pay certain members of the crew from his own rate, the puddler to pay his helper, and other workers to pay helpers when needed. The scale stipulations as to which of the regular members of the crews should be paid by the manufacturer and which by the roller seem to have been sufficiently explicit and close enough to the current practice to prevent frequent or serious disputes. Such troubles as have arisen

¹ The snappers were not members of the organization.

² Report of the Convention, 1892, p. 40.

³ Report of the Convention, 1895, pp. 32, 86, 87, 98.

⁴ Report of Convention, 1896, p. 247; Report of Convention, 1899, p. 97.

⁵ Report of the Officers, 1900.

have usually been over the payment of extra men who had to be added to the crew to help on occasional lots of heavy work or to be employed continuously because the work had become permanently harder.

When additional help was needed the employer might have furnished the help or increased the rate. Failure on the part of the employer to furnish the help required, or insistence that the roller should pay for it, meant a reduction in the roller's rate, since the addition to the labor force at the rolls was usually needed for handling work of heavier sizes which did not increase the tonnage to the same extent that the difficulty of handling was increased. Every branch of the trade has had its grievances over the payment of additional help supplied by the employer, and these disputes have frequently resulted in wage scale stipulations covering the questions at issue. In the Pittsburgh scale of 1884, for example, a provision was inserted that on all mills with three or more sets of rolls the extra hands required should be paid by the company. In the 1887 scale the rule was added that "on all iron and steel over 160 pounds, extra help shall be furnished to the heater, to be paid by the company."¹ In the same scale a clause was included providing that extra help shall be furnished to the muck-mill roller when rolling billets, and on sheet mills when rolling wide work. This last provision was later extended to cover heavy work. Clauses of this character have been gradually added until at the present time they make up a considerable part of the scale footnotes, particularly in the sheet scale. This development of the scale has of course been marked by disagreements.²

The union in many cases established rates to be paid by members to helpers who are also union members. The rate to be paid by the puddler to his helper was fixed in 1891 at "one third and five per cent." of the puddler's rate.³

¹ Pittsburgh Scale of Prices for year ending June 30, 1888.

² For instance, Proceedings, 1892, p. 4412; Proceedings, 1903, pp. 6667, 7022; Proceedings, 1904, p. 7055.

³ Proceedings, 1891, pp. 3274, 3324, 3353, 4221; Western Scale of Prices in Rolling Mills, for year ending June 30, 1892.

The puddler frequently pays his helper more than this. Sometimes the two men work the furnace on equal shares. In 1880 an agreement was made by a joint committee of rollers and of roughers and catchers on sheet mills for the rates to be paid by the former to the latter in the Pittsburgh district, and inserted in the scale.¹ The wage rates of other workers paid by the roller have since been included in the scale of prices. The constitution provides the rate to be paid by the sheet heater to his helper, if he should employ one.² The constitution also provides rates for helpers on tin-plate mills. Rates to be paid by the roller to members of his crew on finishing mills have also been established by the union.³ Many men who are not "regular" members of the crews in the scale sense but who are members of the union are employed about the rolls by the rollers, roughers, catchers, or heaters. Such men make their own terms with the members who employ them, but their rates may be increased by appeal to their local unions at the time of scale revision. Their wages may not be reduced during the scale year, and are subject to the sliding scale to the same extent as those of members specified in the scale.⁴

The Association's policy in recent years has been directed toward having all workers whose rates are specified in the scale paid directly by the manufacturer. The muck roller still pays all the workers in his crew except the "bloom boy," of whose wages he pays half. In sheet mills the roller paid the rougher and the catcher until 1905.⁵ Down

¹ Pittsburgh scale, 1881-1882.

² Constitution, 1901, Art. XIX, sec. 3; Constitution, 1908, Art. XIX, sec. 3.

³ Pittsburgh, Cincinnati, and Wheeling Scales of prices, 1881-1882; Pittsburgh Scale of Prices for Rolling Mills for year ending June 30, 1890; Western Scale of Prices, 1890-1891, scales for bar, structural, and 12 inch mills; Proceedings, 1905, p. 7182.

⁴ Proceedings, 1899, pp. 5565, 5620; Proceedings, 1905, p. 7366; Constitution, 1901, Art. XVII, sec. 22; Constitution, 1908, Art. XVII, sec. 21.

⁵ Pittsburgh Scale of Prices, 1881-2; Cincinnati Scale of Prices, June, 1881-June, 1882; Wheeling Scale of Prices, June, 1881-June, 1882; Pittsburgh Sheet Mill Scale, in Proceedings, 1880, Appendix; Amalgamated Journal, July 6, 1905; Western Scale of Prices, 1905-6, note 28 to the Sheet Mill Scale.

to 1890 many members of crews were paid by the rollers in the various classes of finishing mills; since that time it has been exceptional for regular members of the crew to be paid by the roller.¹

III

ABNORMALLY DIFFICULT CONDITIONS OF PRODUCTION

Liability to defective or deficient materials or to the emergence of physical conditions which make production of goods of the proper quality abnormally difficult has raised issues which have been of importance in several trades. The establishment of rules as to when special provisions for payment to meet such conditions shall come into force has given quite as much difficulty as the decision of what is to be paid. Workers of molten iron and glass are especially hindered in securing output by poor materials, and the rules for the determination of when materials shall be considered too poor to be worked at the regular list prices have demanded much attention in these trades.

The questions as to when the molder shall be paid for bad castings due to "dull" iron and for molds which cannot be "poured off" on the same day on which they are prepared because of insufficient iron, and what the molder shall receive under these circumstances, were for years troublesome questions in the stove-molding trade. There was no general rule on these points and the practice varied² prior to the adoption of a rule in the conference of 1896 by the molders and the Stove Founders' National Defence Association. Whenever sufficient good iron was not furnished to pour off the molds, except in case of unavoidable accident, the molder was to be paid one-half the regular price for such work as remained over.³ It was also agreed then

¹ Cincinnati Scale for Guide Mills, 1880-1881, in Proceedings, 1880, Appendix; Proceedings, 1891, pp. 2819, 3518; Proceedings, 1893, p. 4207; Western Scale of Prices, 1890-1; Proceedings, 1905, p. 7182.

² Proceedings of the Iron Molders, 1890, pp. 19, 21; Iron Molders' Journal, February, 1891, p. 4; June, 1896, p. 245.

³ Conference Agreements, Clause 12; Iron Molders' Journal, April, 1896.

that payment should be made for work lost through "dull" iron only after the foreman's attention had been called to the fact that the heat was bad and he had then ordered the iron poured. The aim of this provision was to secure assurance that the iron was poor when it came from the cupola and that the castings had not been "lost" through the carelessness of individual molders in allowing the iron to cool.

The provision adopted in 1896 with reference to insufficient iron has remained unchanged, but the provision concerning dull iron did not work out satisfactorily to the Molders. In the 1903 conference they offered an amendment providing that payment should be made for all work lost through dull iron when the aggregate loss from this cause amounted to four per cent. of the value of the work (to the molder) poured in the same heat. This was not accepted by the foundrymen.¹ The following year the union modified its proposal so that payment should be made when ten per cent. of the molders should lose five per cent. of their work in any one heat on account of dull iron. This resolution was also defeated by the employers.² In 1905 the union proposed that a loss of two per cent. of the work measured from the standpoint of its aggregate piece prices should be the line of division.³ A compromise was finally reached in the 1906 conference by which payment is made for all work lost through dull iron when the aggregate loss on that account amounts to four per cent. of the total price of the work poured in any one heat. When the aggregate loss is less than four per cent., but ten per cent. of the molders lose ten per cent. of their day's work, these men shall be paid for all loss in excess of four per cent.⁴

Bad glass, particularly "stony" glass, has given the Window Glass Workers considerable trouble. A rule was early

¹ Iron Molders' Journal, 1903, p. 252.

² Ibid., 1904, p. 241.

³ Ibid., 1905, p. 249.

⁴ Ibid., 1906, p. 225; Conference Agreements, Iron Molders and Stove Founders, Clause 12.

established in this union that where there was question as to the fitness of the glass for working this was to be referred for decision to the manager and the master blower, and their decision was to be final. If the employer ordered the glass worked after a decision that it was not in standard condition the workers were to receive a guarantee.¹ The present rule is that in case of dispute over poor glass the manager may require the glass to be worked at the regular list prices for glass of proper quality, unless the glass is "stony," in which case the manufacturer shall guarantee an average day's wages if he insists on having it worked. When a general guarantee is offered at any plant to protect the blower, gatherer and flattener from poor glass it may be accepted by the president and council of the local union, subject to ratification by the national president or executive board. Should the glass worked under the guarantee exceed the amount guaranteed the workers are to receive the excess.²

In the trade agreements relating to glass bottle blowing the rule as to bad glass requires the blowers to wait two and one-half hours from the starting time for the glass to be gotten into condition for working, and to make every effort to get it into condition meanwhile. After the expiration of that time if the glass is in poor condition the members may go home or demand payment if they remain. If the employer requests them to work the glass previous to the expiration of that time and is willing to pay for the glass blown, the members may work if they wish.³ In the machine jar and bottle branch there is a time limit of one and one-half hours for waiting for machines to be put into proper condition. This was formerly one-half hour.⁴

¹ Report of Convention, 1884, p. 11; By-Laws, 1886, secs. 18, 37; Proceedings, 1895, p. 78.

² Wage Agreement in effect to June 11, 1909.

³ Wage Scale, 1908-9, sec. 19; Wage Scale, applying to Covered Pots only, 1908-9, sec. 20; Proceedings, 1907, p. 76.

⁴ Proceedings, 1900, p. 41; Proceedings, 1903, p. 60; Wage Scale for Machine Jars and Bottles, 1908-9, secs. 4, 6, 10, 28.

The Flint Glass Workers in 1884 adopted a resolution on the recommendation of the Chimney department, "that the blowers sustain no loss for bad or so-called stony glass when the manager permits or orders the men to work it."¹ For years, however, the workers in this department complained of such losses. The employers were unwilling to pay for chimneys that would not pass as "seconds" and the men complained that the glass was sometimes so bad in a number of factories that "seconds" were secured with great difficulty. They also charged that there was too "close" a selection of the chimneys with which the men were credited and that they lost ware when the fault was in the glass furnished. The workers also objected to not having a chance to work at something else when the glass was bad.²

Poor materials, particularly coal and iron, have demanded attention in the puddling division of the Amalgamated Association of Iron, Steel and Tin Workers. In 1877 there was a strike of puddlers because they had been required to fire their furnaces with refuse slack coal, which did not produce sufficient heat and greatly increased their labor. In the same year a strike against poor ore was brought to the attention of the convention.³ Grievances over poor coal and ore were numerous enough in the next few years⁴ to induce the convention of 1883 to take up the question of how much time a puddler should spend on a heat before giving it up if the materials were unsatisfactory.⁵ An amendment to the constitution was then adopted to the effect that any iron worked in a boiling furnace which required more than one and three-fourths hours to make a heat should constitute a grievance and should be reported as such to the employer or his representative. The course of action to compel better

¹ Report of Session, 1884, p. 79.

² Proceedings, 1887, pp. 21-22; Proceedings, 1892, p. 28; Proceedings, 1896, pp. 44-46; Proceedings, 1897, p. 29.

³ Proceedings, 1877, pp. 46, 47.

⁴ Proceedings, 1881, pp. 663-4, 668, 671, 673; Proceedings, 1882, p. 941.

⁵ Proceedings, 1883, p. 1231.

iron if such were not given within three days was also laid down.¹ Later a clause was added to the scale that inferior coal should likewise be considered such a grievance.² These provisions did not, however, prevent misunderstanding and strikes on this issue.³

The Hatters have also had trouble at times with materials abnormally difficult to work. Disputes arising from this source have usually been settled by a change in the materials or an increase in price for those particular pieces.⁴ Some protection is afforded the worker in this respect by the provision in the national constitution that prices must be so adjusted as to give an average earning capacity of at least a stipulated amount per week.⁵ The Mule Spinners also have had disagreements with their employers over "stoppages" of the mules because of defects in the machinery or other causes outside the control of the spinner, and over bad material.⁶ The Printers, too, when working under the piece system, provided in their scales for the compensation to be paid when the type furnished was defective.⁷ Piece scales in some trades provide for the rates to be paid when men are given time work for a period on work of a character that does not easily permit of piece work.

The turn system.—The danger to the worker of occasional reductions in his earnings because of difficult or unfavorable conditions for production is greatly reduced where the "turn" system of working and payment is followed. This system is a combination of piece work with a guaranteed wage. The worker is paid a stipulated wage per "turn"—usually a half-day, but in some trades a day—and the number of pieces he is to make per turn is specified

¹ Constitution, 1884, Art. XVIII, sec. 21.

² Western Scale of Prices, 1902-3.

³ Proceedings, 1891, pp. 3517, 3518, 3528, 3534, 3545; Proceedings, 1902, pp. 6411, 6437; Proceedings, 1903, pp. 6668, 6701, 6726, 6990; Proceedings, 1905, p. 7399.

⁴ Journal of the United Hatters, September, October, 1899; April, May, 1902; January, February, 1903.

⁵ Constitution, 1908, By-Laws, Art. V.

⁶ Report of Convention, 1905; Report of Convention, 1906, p. 9.

⁷ Barnett, p. III.

in the scale. If he works through the turn and fails to reach the stipulated number, but not through his own fault, he is paid his turn's wage. If the number of pieces per turn is fixed as a limit of output, as was originally the case, the failure to reach the stipulated number brings him no loss in average earnings. This system was once generally followed in most departments of the Flint Glass Workers' Union, in the sheet and tin division of the Iron, Steel and Tin Workers' Association, and in the kiln-work branch of the Potters. It has been given up in recent years in these trades, except in a few of the Flint Glass Workers' departments.

The turn system, or "move" system, is older among flint-glass workers, in some branches of the trade at least, than the union itself.¹ Outside the Prescription department, in which straight piece work prevailed, the turn or "move" system of payment was general in the early years of the organization.² The Pressed Ware department was the first to break away from the system to any considerable extent. As a matter of fact it had not been universal in this department, not being in use in Pittsburgh, where the straight piece system had been introduced in 1878 after an unsuccessful strike. In 1885, after a strike in the Ohio Valley in which the change to the piece system was one of the issues involved, piece work was accepted in that section also.³

¹ Proceedings, 1897, p. 50.

² A "move" is both a turn and the number of pieces to be made per turn. It was the system worked in the Paste Mold (including then Punch Tumbler and Stem Ware), Iron Mold, Pressed Ware, Shade and Globe and Caster Place departments (Minutes of the National Union, 1883; Constitution, 1880-1). It was also worked for the most part in the Chimney branch, particularly in the West (Minutes of Session, 1883, p. 55; Report of the Convention, 1886, p. 92).

³ The strike began in December, 1884, for the enforcement of the list adopted by the local unions of the Ohio Valley. The manufacturers refused to accept this on the ground that it made their labor cost higher than in Pittsburgh, and demanded the piece system as it existed in Pittsburgh. In the settlement the piece-work system was accepted by the union at somewhat lower prices than those first asked (Report of Convention, 1886, pp. 10-17). The president's summary of the results of the strike was as follows: "Regarded as

Thenceforth this department had two lists, one based on the turn system, the other on the piece system.¹

The breaking down of the turn system came also through the removal of the limits for a turn's work as well as through overt changes to the piece system. When the "move" number, that is, the number to be done for the turn wage, ceased to be a fixed limit which might not be exceeded, the system became in essence an unlimited piece system. The worker turned out as many pieces per turn as he could, or would, and was paid for the excess above the move number a price per piece equal to the turn wage divided by the move number. As actual average wages grew to exceed the nominal turn wage the latter lost its efficiency as a guarantee of average wages. The Pressed Ware department gave up its limits in 1896.² Since that time most of the ware in three other turn departments, the Iron Mold, Paste Mold, and Stem Ware departments, has been put on the unlimited basis. The members cling tenaciously to the turn system where it still remains. The three departments just mentioned are trying to retain it for the ware still worked under it, and the four which have preserved it practically intact, the Shade and Globe, the Caster Place, the Electric Light Bulb, and the Chimney (hand-blown) departments, have repeatedly refused to give it up at the urgent request and even threats of their employers.³ Their refusal proceeds in considerable measure, of course, from a preference for a limited over any kind of an unlimited system, but it is due in large part also to a prefer-

an effort on the part of the manufacturers to establish the piece-work system in the Ohio Valley, the settlement was a victory for the manufacturers. Regarded as a fight to crush out the union the settlement was a victory for the men."

¹ Report of Convention, 1886, pp. 65, 92. The limits of output were retained in the piece scale. In 1890 paste-mold blown tumblers were changed to a system of piece work with limits (Proceedings, 1892, p. 50).

² Proceedings, 1897, pp. 24, 37.

³ Proceedings, 1901, pp. 24, 34; Proceedings, 1903, pp. 43, 45; Proceedings, 1904, pp. 18, 83; Proceedings, 1906, pp. 49, 142; Proceedings, 1907, pp. 4, 36, 141-2, 159; Proceedings, 1908, pp. 56, 138-142, 152, 155-8.

ence for a turn system as against straight piece work even with limits.

The turn limits in the sheet-mill division of the Iron, Steel, and Tin Workers were given up in 1905. Previous to that year the regular members of the crew were paid a fixed wage per turn, except the roller who was paid by the ton. Some members of the crew, notably the rougher and the catcher, were paid by the roller,¹ and their wages per turn and the number of pairs to be rolled per turn were fixed in 1880 and inserted in the scales.² These same limits were also set for the turn's work of those members of the crew paid by the manufacturers. The numbers of pairs per turn were several times increased, and the turn wage increased proportionally. In 1905 the limits were given up altogether.³ Thereafter the turn workers were practically on an unlimited system, and in 1908 they were put on a straight piece system.⁴

The turn system of the kiln workers in the pottery trade has also been for years an unlimited one. Kilnmen are still paid, however, on the basis of a fixed rate per "day"; but a kilnman's day's work in the kiln is specified as a certain number of cubic feet of ware. This day's work is normally exceeded in practice and a proportional rate paid for the excess.⁵

The members of the railway brotherhoods engaged in train service⁶ work under a system of payment resembling the turn system in many respects. The wages of engineers, firemen, conductors, and brakemen, except those in the switching service, are commonly paid at mileage rates, with guarantees of payment for a certain number of miles per hour for the time worked. The rates are expressed in terms

¹ See above pp. 62-64.

² Pittsburgh Scale of Prices, 1881.

³ Amalgamated Journal, July 6, 1905; Wage Scale, 1905-6.

⁴ Western Scale of Prices, 1908-9.

⁵ Wage Scale, 1907.

⁶ These are the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen and Enginemen, the Order of Railway Conductors, and the Brotherhood of Railroad Trainmen.

of cents per mile, not in hours, and for the most part, except in local and slow freight service, payment is in fact for miles actually covered. The railway unions have favored the system of payment by mileage and have done much to extend it, and they are largely responsible for the present form of the guarantees.¹

The general practice is for all men in the freight-train service and for engineers and firemen in the passenger service to receive payment according to the number of miles covered. There are, however, two important modifications of this general principle. In the first place, if the miles covered do not reach the number agreed upon as "a day's run," usually one hundred, the latter is the number to be paid for. If a crew is sent out on the road it must be credited with at least a day's run when released even if it has not covered that number of miles. The general rule is that crews may be released only at terminals, and must be released there unless sent on further in the same direction. Nearly all runs are from one terminal to another, except "turn-back" runs, that is, scheduled runs from a terminal to an intermediate point on the line, such as a junction, and back to the first terminal.² When a crew reaches a terminal and is released it receives 100 miles, even though the distance be less than that and the time considerably under the number of hours agreed upon as a normal day's work.³ If a crew should be sent back to the terminal from which it came after arriving at a terminal, it would be credited with two days' runs for that day.⁴ The principle generally observed is that each time a crew leaves a terminal a dis-

¹ The engineers and firemen in particular have had to deal with differentiation in the mileage rates to compensate for differences in the difficulty of the work, and with problems growing out of definition of work. Their policies and problems, therefore, are more those of piece or turn-working than of time-working unions.

² A "turn back run" is paid for as one continuous trip.

³ "One hundred miles or less, or ten hours or less shall be considered a day's work" is a common provision in the agreements.

⁴ If a road has terminals which are considerably less than 100 miles apart it pays in a year a great deal of "constructive" mileage, that is, mileage not actually covered and not credited as overtime.

tinct "day's run" begins. It often happens that men in this way perform many more than thirty-one "days' work" in a month, and it is common for men in the through passenger service to make two hundred miles or more on each day worked, resting on alternate days. The day's run guarantee sometimes operates to give 100 miles to a crew which is sent out a few miles and brought back and released in a very few hours. Such occurrences are, however, very exceptional. A supplementary rule provides that if a man is called and not sent out he receives payment for one-fourth or one-half a day and "stands first out," that is, goes out on the next trip not regularly assigned, and he then begins a new day's work. If kept under orders one-half a day he usually receives credit for a day's run.

The second modification of the rule that payment is for mileage is the provision for "overtime." Overtime begins on most roads thirty-one or sixty-one minutes after the expiration of the number of hours agreed upon. Overtime is generally credited as a given number of miles; though sometimes it is provided for in cents per hour. The overtime mileage allowed in freight service, except fast freight, is generally equal to the number of miles in a "day's run" divided by the number of hours agreed upon as a day's work. In the fast freight and passenger service it is on most roads more than this—in the passenger service usually double—in order to bring the overtime mileage allowance into closer conformity with the mileage ordinarily made. If the mileage actually covered in overtime exceeds the allowance, the actual mileage is paid for. The overtime guarantee is important to the men in the ordinary freight service, as the wages received under the overtime clause averages on many roads nearly twenty per cent. of their total earnings.

There are many cases, particularly in the passenger service, in which regular trips are rated separately in agreements which provide in general for mileage payment. These trip rates are calculated on a mileage basis even if the agree-

ment stipulates the amount to be paid for the trip instead of the number of miles to be allowed for it. Usually a separately stated trip rate is higher than actual mileage would be, and the trips are generally rated separately because the average number of miles for the time worked cannot be easily made on them.¹ Passenger conductors and trainmen are also often paid by the month. On some roads they are given mileage rates and guaranteed a certain number of miles or trips per month. In some cases daily guarantees are in force. Monthly rates and individual trip rates, each made up separately on the basis of the time required for the run, were once general in the railway service; but the unions have steadily urged the universal use of mileage rates with guarantees.

It is evident that under such a system of payment rules must be established as to how runs shall be assigned to crews. Since some assignments return more than others in proportion to the time worked, some rules must be adopted for their equitable distribution, from the standpoint of the men. The rule generally followed, and favored by the unions, is that of choice in order of seniority in the service. In the passenger service generally and in the freight service to a considerable extent, the man first in order has the right to a regular trip which has become vacant. In the freight service among the enginemen, the undesirable assigned regular runs are passed on to the newer men. The newer men are to be found on such of the regular runs as men above them have not cared to take, and in what is known as the "board list." From these positions they pass into the "pool" in order of seniority, if they so choose. The engineers in the group known as the "pool" go out on the unassigned runs in their turn, each man having his chance in order before the first man is sent out again, according to the rule of "first in, first out." When the pool is exhausted the men in the "board list" stand "first

¹ Long through passenger runs on fast trains are sometimes given trip rates that are less than the mileage would amount to.

out" in order. The number in the pool is generally regulated so that each man in it has an opportunity to make at least a given mileage per month, usually in the neighborhood of 2600. The men in the pool have the choice in the order of seniority of the "preferred" runs.

The trainmen and conductors are opposed to the regular assignment of the "preferred runs" in the freight service. Except where trains have to be regularly assigned for good cause they insist on the men who have attained the through-freight group sharing all runs on the principle of "first in, first out." The local-freight runs are assigned, but are looked upon as less desirable than through-freight runs. The men have the choice of passing into the through-freight group in order of seniority as among the engineers. The conductors' and trainmen's unions also favor the establishment of guarantees for the men retained in the service.¹

There is some classification of the work in the train service as a basis for making differences in mileage rates similar to the distinctions in the rates for different varieties of product in other trades. The rates for engineers and firemen vary to some extent with the size of the engines. For trainmen and conductors the rates are the same for men of the same rank; but local freight pays more per mile, as the mileage made in the time worked is less. The trainmen and conductors want higher rates per mile when "double-heading"—putting on an extra engine to carry a train up an incline—is resorted to. Their contention is that it increases the length of the train for the trip and makes more work for the crew. There have been questions of definition of the work, too, of engineers and firemen, particularly the latter, as to when "work" shall begin and end. The schedule of rules covering questions of this kind makes up a very important part of the wage agreements of these two unions.

¹ It is a general rule of the railway unions that when the force is reduced, the men are "let out" in the reverse order to that in which they were taken on, and each man drops into the vacated place just below him.

CHAPTER II

THE STANDARD TIME RATE

The prevailing method of regulating time wages in American trade unions is by fixing a standard rate, that is, a rate binding on a group of workers. This rate in nearly all cases is set as a minimum and not an actual or maximum rate. There have, however, been instances of unions fixing time rates for individuals instead of for groups, and of unions adopting group rates which were not minimum rates. It will be expedient to consider these exceptional classes of rates before entering upon the discussion of minimum standard rates.

Unions have found it feasible at times to make agreements with employers specifying the rates to be paid to individuals designated by name. Or a union, stopping short of such an agreement may fix rates for individual members directly, or through its officers, shop stewards or business agent. This has been done by the Pattern Makers, whose local unions are comparatively small, compact organizations. The Baltimore Coat Makers, a local union of the United Garment Workers, has also followed this practice for the lower grades of assistant operators, baisters, and finishers on coats, because of the difficulty of adopting and enforcing an equitable minimum for inexperienced workers of widely varying capacity. These individual demands are usually supported by the withdrawal of the individual worker so rated, if the wage is refused by the employer.

A union may also take action affecting the wage rates of a number of workers without adopting a standard rate for the group. It may agree with the employers for a given absolute increase per day for all, or, as is more common, for a given percentage increase. If the union has heretofore had no standard rate a union rate is thus established for

each member by agreement. This has been done, for instance, by the textile unions of Fall River in their present sliding scale agreement. The wages of the members, which up to that time had not been to any considerable extent standardized, thereby come to be increased or decreased by a uniform percentage. Another form of action affecting uniformly the time rates of a group of workers occurs where a local union with a piece-price list provides that the rates to be paid time workers shall be based on their piece earnings. Local unions, notably among the Granite Cutters, have occasionally agreed with employers that each time worker is to be separately rated at what his work averages by the piece bill. Unions may enforce percentage advances or flat advances or may require that time wages shall be equivalent to piece earnings and may at the same time enforce standard minimum rates, as will be shown later. The cases noted here are peculiar in that they are cases in which no standard rates are fixed.

The standard minimum rate has been long in use among American trade unions. The establishment of such rates in this country probably goes back as far as the regulation of time wages by unions. The New York Printers' scale of 1809 provided that "No journeyman working at press on a morning daily paper shall receive a less sum than nine dollars for his weekly services; nor those on an evening paper a less sum than eight dollars." Journeymen employed under the time system on composition were "in book or evening daily paper offices, to receive not less than eight dollars per week. On morning daily papers nine dollars."¹

In the revival of unionism after the Civil War we find several unions with "standard" time rates of wages, notably the Bricklayers,² Plasterers, Carpenters, and Iron Molders.³

¹ Barnett, pp. 367-369.

² MS. Proceedings, International Union of Bricklayers of North America, 1867, pp. 21, 37-8, 42-44; Proceedings of the Bricklayers' National Union of the United States, 1871, p. 27.

³ International Journal (Iron Molders'), November, 1866; January, 1867.

It is certain that these rates were in many instances not intended as actual or maximum rates and it appears that they were binding on all as minimum rates. Bricklayers' Union, No. 1, of Missouri, adopted a resolution in 1867 that after May first of that year no member should be allowed to work for less than five dollars per day.¹ The "rate" of the Newark Iron Molders in 1866 was the "lowest any can accept."² A correspondent wrote to the Molders' Journal from New York in January, 1867, that the Bricklayers' Society rate was four dollars, but employers gave fifty cents a day more for good workmen, and bricklayers received from four to five dollars; he also noted that the Plasterers' Society rate was four dollars and a half, but that more was paid in some instances to good workmen.

By 1875 the use of the minimum standard rate was evidently widespread among the strong time-working trade unions. A writer in the Molders' Journal of August, 1874, defends the trade-union practice of fixing a rate of wages below which no member is allowed to work. This, he says, is the one practice charged against trade unions with which more than any other the employers find fault. The minimum rate, the writer affirms, is not intended to be a maximum though the employers are inclined to make it such.³ In August, 1875, an article is quoted with approval in the same journal from the Fall River Labor Journal in defense of the policy of setting a minimum rate pursued by "carpenters, painters, mechanics, and other classes of skilled help." This writer also declares that the rate is intended as a minimum, not as a maximum.⁴

There have been some exceptions to the general rule that standard rates are minimum rates. Some of the local unions of the Granite Cutters, particularly in New England, were long in coming to the adoption of minimum rates. These

¹ MS. Proceedings, 1867.

² International Journal, December, 1866, p. 286. In the Iron Molders' Journal of July, 1899 (p. 356), the editor stated that the minimum wage is as old as the union itself.

³ International Journal, August, 1874, p. 6.

⁴ Iron Molders' Journal, August, 1875, p. 396.

unions were at first very largely piece-working unions. For years "the rate" or "the standard rate" meant in many of the New England local unions the average or "basic" rate.¹ The Providence branch, for instance, had in 1880 "standard" wages of \$2.25; some received less than that amount, but it seems to have been the predominant rate or the presumptive rate.² In some places where both the piece system and the time system of payment were in use, the "standard wages" was the amount the average man earned by the piece bill, and so a presumptive rate as applied to time workers.³ Yet the Philadelphia and the New York union rates were in 1881 minimum rates, though the unions had some difficulty in enforcing them.⁴ Boston's "standard" rate also was in 1883 a minimum rate.⁵ The "standard" rate gradually changed from what most of the men received or the average rate into a minimum rate. With the passing of the piece system in the nineties,⁶ and the agitation for a national minimum rate the union rate came to be known as the "minimum" rate and to be in most of the branches an actual minimum.⁷

There were a few branches, however, which had not adopted minimum rates when the national minimum of three dollars came into force in 1900. The Barre (Vermont) branch was one of these which attracted much attention. In 1900 that branch obtained a sixteen and two-thirds per cent. increase for all members, but not the recognition of a minimum. The competent workmen were to receive thirty-five cents an hour and this was known as the average rate. Those not up to that level of competency were to receive what they were worth as judged from the piece-price list, and the better men were to receive thirty-seven and a half

¹ Granite Cutters' Journal, September, December, 1878; October, November, December, 1879; March, April, May, August, 1880.

² Ibid., March, 1881.

³ Ibid., April, 1882; September, 1891.

⁴ Ibid., June, November, 1881.

⁵ Ibid., May, 1883.

⁶ See p. 193.

⁷ Granite Cutters' Journal, March, 1897.

or forty cents an hour.¹ The national officers were opposed to "average" rates and urged the New England branches which had such rates, to try to secure minimum rates.² The Hardwick branch obtained a minimum instead of an "average" rate in the spring of 1902, being the first branch in Vermont to do so.³ The officers continued to urge the policy of the minimum rate upon the locals,⁴ but Barre did not fix a minimum rate until 1908.⁵

There have been, and still are, local unions in many trades which, though favoring the policy of the minimum rate, have not adopted one because they are not strong enough to enforce a rate sufficiently high to seem worth while to the mass of the workers, without excluding some whose adherence is needed. For example, the Philadelphia Garment Workers devoted their energies to building up their union for two years after their organization in 1897, before they adopted a minimum, which every member was to obtain when making a new contract.⁶ The Granite Cutters have recently begun to organize the granite polishers and to take them into the same local unions with the cutters. They desire to secure minimum rates for the polishers wherever feasible. The Barre agreement for 1908-11, for instance, provides a minimum to be paid to all polishers by March 1, 1909. In some other localities, however, minimum rates have not yet been adopted for the polishers. In the Quincy and Concord agreements for 1908-1911 a minimum rate is set for polishers working by the day, but it is provided that if any man cannot earn this rate his wages are to be fixed

¹ Granite Cutters' Journal, March, 1900, p. 4.

² Ibid., February, 1902, p. 4.

³ Ibid., March, April, 1902.

⁴ Ibid., December, 1902; January, February, 1903. The lack of a minimum in Barre was the cause of considerable contention between that branch and the national officers.

⁵ Ibid., February, March, 1903; January, March, May, 1908. In 1903 the Quincy Branch asked for "a minimum of \$2.90 and an average of \$3.08." Their feeling was that the fixing of a minimum would allow those to obtain employment who could not secure it at the average (Ibid., January, 1903, p. 9).

⁶ Weekly Bulletin, May 13, 1904; Garment Worker, August, December, 1898.

by a joint committee in case of dispute. The Stony Creek agreement for the same period provides that polishers must be union men and not work more than eight hours a day; but they are to make their own terms as to wages.¹

The Iron Molders' Union, as has been noted, was strongly in favor of the minimum-rate policy from early in its history,² but even in the nineties many local unions did not enforce minimum rates. In some places this was due to a decrease in the strength of local unions;³ in others to the prevalence of piece work. In Boston and vicinity a minimum was established and piece work abolished in 1895.⁴ In 1899 and 1900 there was a general movement for the establishment of minimum rates. In 1899 St. Louis regained the minimum,⁵ and in the same year minimum rates were established in Buffalo,⁶ Springfield, Worcester, Providence, Lowell and Bridgeport, and in other cities.⁷

I

RATE GROUPING BY KIND OF WORK

In the use of the time standard rate the most important question is as to the grouping of the members for purposes

¹ The Cutting Die and Cutter Makers have not yet adopted scales. The union is but a few years old and the varied character of the work is a difficulty in the way of setting a standard rate. There are occasionally instances of union time workers not subject to minimum rates, because of their relative fewness. In some places there are scattered day workers in the piece-working branches of such unions as the Boot and Shoe Workers, the Garment Workers, and the Cloth Hat and Cap Makers for whom no minimum day rates have been adopted. Some time-working unions have a few members in auxiliary branches of the trade, as the felters in the Print Cutters' Union, and the stone grinders in the Lithographers' Union for whom they have not thought it necessary to adopt rates.

² See above, p. 79; also Proceedings, 1888, pp. 23, 78; Iron Molders' Journal, April, 1890, p. 6.

³ In 1900 Toledo was reported as disorganized, and with wages there the worst in the state. In 1884 Toledo had a minimum of \$2.75 (Iron Molders' Journal, March, 1900, p. 143).

⁴ Ibid., January, 1896, p. 12.

⁵ Ibid., May, 1899, p. 231.

⁶ Ibid., March, November, 1899.

⁷ Ibid., 1899, pp. 348, 648-50. For accounts of the general movement, Ibid., 1899, pp. 175, 407, 459, 463, 587; 1900, pp. 341, 403-4, 467, 470, 535; 1901, pp. 483, 485, 760, 763; Proceedings, 1899, pp. 8, 27, 29, 30.

of uniform minimum rating. As has been pointed out in the Introduction, the line of demarcation between groups subject to different minimum rates has nearly always to do with the kind of work the members are performing, not with the degree of competency shown in doing work of the same kind. In many trades there are two or more separate kinds of work which are recognized as constituting distinct branches or subdivisions of the trade or craft, each in itself the special, and for the most part exclusive, occupation of those who follow it.¹ Where there are such occupational groups within the membership of a union—and in most time-working trades there are at least two, and often several—the general union policy is to establish different minimum rates for groups recognized as requiring different grades of skill.

The differences in occupation within the membership of a union are often wider than those within what may be considered a trade or craft. Some unions, the so-called "industrial" unions, include workmen of several trades within their membership. The Brewery Workmen, for instance, admit to membership the engineers, firemen, coopers, teamsters, and stablemen employed by the breweries as well as the workers actually engaged in making, bottling, and otherwise preparing the product for shipment. The engineers, firemen, coopers, teamsters, and stablemen are not specialized brewery workmen; nearly all could pass from the brewery to employment in other industries without change of occupation. The United Mine Workers is another union of this type. The Illinois miners' "top day wage scale" includes rates for carpenters, blacksmiths, dynamo men, firemen, engine coalers, and engineers, all workers in occupations distinct from mining. The Longshoremen, Marine and Transport Workers' Association includes not only men

¹ If any considerable part of the workmen in a trade are engaged on work that they are expected to perform regularly, and which other members are not expected to do, save perhaps on exceptional occasions, they may be regarded as engaged on a "distinct" kind of work in the sense in which that term is here used.

engaged in loading and unloading vessels on the Great Lakes, together with engineers, firemen and hoisters engaged on machinery for loading and unloading, but also steam shovel and dredgemen, dredge workers, drill-boat workers, tugmen, tug firemen and linemen, gill-net fishermen and fish packers. In such unions as these, the question of rating naturally resolves itself at the outset into a separate determination for each of the distinct trades.

Many unions are composed of the members of trades which have been much subdivided in recent years in consequence of advances in productive methods. The Garment Workers, Ladies' Garment Workers, Boot and Shoe Workers, Bookbinders, and Laundry Workers, are conspicuous examples of this class.¹ In each of these trades there are subdivisions which require no common apprenticeship, and from one to another of which workers do not ordinarily pass. Each of these subdivisions is virtually a distinct trade or craft from the standpoint of wage rating and is recognized as such by the unions.

There are other unions which, while made up very largely of workmen of one trade, include some members of another trade whose work is closely connected with that of the major trade. The tool sharpeners, who are members of the Granite Cutters' Union, are specialized blacksmiths; the machine tenders in the Typographical Union are specialized machinists. Where such workers are skilled and comparatively few in number, as in these cases, the tendency is to give them the same rate as other members of the union if it can be secured for them. Some crafts practically distinct in large places, but followed to a considerable extent by the same persons in the smaller cities and towns are joined in the same union, such as the bricklayers, masons and plaster-

¹ The two garment-working unions and the Boot and Shoe Workers are predominantly piece-working unions. In many places, however, they have to maintain minimum time rates for various divisions of their trades. The Textile Workers, also a predominantly piece-working union, includes within its membership several distinct occupations remunerated under the time system; but these are for the most part not subdivisions of what was formerly a single craft.

ers,¹ the plumbers and gas fitters, and the paper hangers and painters. In the large cities each craft in such a union has its distinct minimum rate. In the smaller places, particularly if there is much interchanging, the rate is likely to be the same for both.²

There are several unions in the building trades which, as a result of specialization and the introduction of machinery, include groups of members who work at a lower rate per hour than the general rate for the men on the buildings. One class of these are the "inside" men employed in shops in the preparation of materials, as the shopmen of the Structural Iron Workers, the shopmen in the Operative Plasterers' Association, and the cabinet makers and other millmen in the Carpenters and Joiners.³ Another important case in point is that of the men engaged in yards in preparing stone. The marble bed-rubbers, sawyers, and polishers in New York City have separate minimum rates differing from each other and lower than the rate for cutters and setters. The

¹ There is a distinct union of plasterers, the International Association of Operative Plasterers, with branches in most cities of considerable size. Where there are no Operative Plasterers' local unions, men who do plastering belong to the Bricklayers and Masons' Union.

² Sometimes the inclusion of two branches of a craft or two distinct crafts in the same union leads to the fixing of the same rate for both, whereas if separate unions were maintained one would be likely to get less than the other. In these cases there is a feeling among the members of the branch which would receive less pay that the effort or skill required is equal to that in the other branch and that a strong union is alone necessary to secure equal compensation. In 1903 the core makers who had been previously organized in a separate union, were taken into the Iron Molders' Union. At that time their rates were in most places lower than those of the molders, and for a time a lower rate was set for them in the molders' union (*Iron Molders' Journal*, 1904, pp. 99, 147, 251, 486, 518, 599). The core makers still have lower rates in most places. In the New York district, for instance, their rate is twenty-five cents a day less than the molders' rate (*Ibid.*, January, 1907, p. 48). At the 1907 convention of the Iron Molders, however, it was declared to be the policy of the union to secure for them the same rate as for the molders. This policy was adopted on the ground that the core makers deserve as high wages as the molders and failed to secure equal wages before only because they were not well organized.

³ A separate union of cabinet makers and other wood workers, known as the Amalgamated Wood Workers, is now in process of consolidation with the Carpenters and Joiners.

polishers in the Granite Cutters' Union also, as has been noted, have a lower rate than the cutters. In all of these cases the separate rates are for divisions of the trade which are regarded as distinct occupations for those now engaged in them, and from which they are not ordinarily expected to pass to the higher-rated division.¹ In those unions to which helpers are admitted, as the Asbestos Workers, Blacksmiths, Boiler Makers and Iron Shipbuilders, Cement Workers, Elevator Constructors, Electrical Workers, Bridge and Structural Iron Workers, Marble Workers, Plumbers and Gas Fitters, Steam Fitters, and Tile Layers, the rates for helpers are, of course, lower than for journeymen.

Finally, there are unions which maintain distinct minimum rates for groups of workers divided according to the stages of advancement which they have reached in the trade. The International Printing Pressmen's Union is such a union. Outside the large newspaper offices the apprentice on becoming a journeyman and being given charge of a press is entitled to the lowest minimum rate set for journeymen. As he advances in skill he is normally promoted to a larger press. The union rate for journeymen varies with the kind of presses of which they have charge, or, on the largest presses, with the position held on the press. In the large newspaper offices the positions on the presses are generally rated, and assistant pressmen on these are regarded practically as journeymen and given as high rates as men in charge of smaller presses in book and job offices.² Men

¹ There are, of course, many other unions made up of workers following branches of what was once a single trade or of workers in allied trades carried on in close conjunction, which maintain, in many places at least, two or more separate rates of wages. Among these unions are the Bakers, Carriage and Wagon Workers, Cloth Hat and Cap Workers, Car Workers, Electrical Workers, Amalgamated Glass Workers, Glove Workers, Hotel and Restaurant Employees, Machine Printers and Color Mixers, Metal Polishers, Buffers, and Platers, Pavers and Rammermen, Photo-Engravers, Railway Carmen, Seamen, Theatrical Stage Employees, Stereotypers and Electrotypers, Teamsters, and Wood, Wire and Metal Lathers.

² There has been a tendency recently to group the assistants on these presses as journeymen at one rate, instead of distinguishing between them in rating, leaving the pressmen in charge with a rate higher than the assistants' rate.

who have learned to run presses in the smaller book and job offices often transfer to the more highly paid newspaper or magazine presses. The Lithographers also fix a series of rates of wide range for their members in charge of presses, according to the size of the press. The Machine Printers' rates for printing wall paper vary in similar fashion with the number of colors printed.

There are many other instances of differentiation in rates within a union according to degree of proficiency. Among the Garment Workers, coat operators, baisters, finishers, and pressers are rated according to the work on which they are generally engaged. The Bookbinders, Bakers, Marine Cooks and Stewards (of the Seamen's Union), Seamen, Steam Engineers, Laundry Workers, and the Pavers and Rammermen maintain distinct rates for different positions which mark the stages of advancement attained by the worker. The rates of the Compressed Air Workers vary according to the pounds of pressure under which the work is done. This is partly a matter of physical strength, but also a matter of experience in more difficult work.

There are also unions which set higher rates for groups of men who have specialized on work which is above the skill of the ordinary journeyman. For example, tool makers and die-sinkers are general machinists with special training in these higher classes of work. Their rate is usually fifty cents a day more than the rate for "competent machinists." The linotype operators are generally recognized as men of more skill as a class than other members of the Typographical Union and in many places have a higher rate. Similar cases are those of the decorators in the Brotherhood of Painters and Decorators, the "molders" in the Stereotypers' and Electrotypers' Union, the carvers in the Granite Cutters' and Marble Workers' Unions, sewer-builders in the Bricklayers' Union, and mortar makers and cement mixers in the Hod Carriers' and Building Laborers' Union. In some trades, too, foremen and men "in charge of gangs" are given higher minimum rates. In nearly all of these

unions the higher-rated men are in the same unions with the members following the common branch of the trade. Where men are not separately rated, although engaged regularly on work recognized as requiring more skill than is expected of the average journeyman, it is usually because these men are comparatively few in number, or do not feel the need of a higher union rate to secure higher wages, or because the union does not wish the work to be assigned to a specialized class of workmen.

Sometimes a distinction is made in the minimum rate for other reasons than differences in trade skill. The Granite Cutters have a higher rate for outside work than for work done under shelter, to compensate for the exposure and greater lack of regularity in the former. Men working on surface machines are also usually given higher rates in this union, not because the work requires greater than average skill but on account of the exposure to the fine dust. The Granite Cutters often set lower rates, too, for monumental work than for work on buildings, on the ground that at an equal rate with the building rate, other material, particularly marble, would be substituted for granite and the members lose the chance to do this work. The Stone Cutters have had at times a lower rate for limestone for a similar reason.¹ Sometimes men in the building trades, particularly bricklayers and carpenters, are allowed by their local unions to take special yearly jobs at rates that amount to less per day than the union minimum. These are usually positions with corporations with large establishments which do their own repair work and undertake no building contracts. These positions are exempted from the regular daily rate because the work is not done in competition with contractors in the trade and because the men earn more in the year than members at the minimum.

There are some cases in which a differentiation in rating once accepted by the union is now opposed. The Blacksmiths in large specialty shops, and particularly in railroad

¹ Stone Cutters' Journal, April, 1895; March, 1904.

shops, often have a series of separate rates for journeymen according to the kind of work done. For the general contract shops there is in many places a minimum for the majority of the workers, with higher rates for men engaged at the "big fire" and in spring making, and for hammermen. The officers of the union favor the latter form of scale. They think that men at the "big fire" and at spring making should receive higher rates because the work requires more skill and that hammermen should receive more than the general run of journeymen because the work is harder. But they oppose distinctions in union rates for journeymen at the other fires, on the ground that the work requires on the whole about the same skill for all.¹ They believe that a uniform minimum checks specialization, which they look upon as undesirable. It is highly probable that the greater convenience in bargaining and enforcing, and the greater solidarity of interest engendered by a single rate, also makes the uniform minimum attractive to the unions. The Painters also oppose differentiation in rates in the railroad shops. The Boiler Makers favor uniform minimum rates for all journeymen, but there are still some local unions with separate minimum rates for different classes of work. Until recently the Wood Workers undertook to organize the men in mills making doors, sash and trim, and fixtures, and this union set separate rates for men engaged on different kinds of wood-working machinery, and a higher rate for bench men. The Brotherhood of Carpenters and Joiners, which for years has had some millmen in its membership and is absorbing the Wood Workers, favors the plan of having a single minimum rate for all millmen.

The Machinists follow the same policy in fixing minimum rates for "specialists." These are workmen whose work is limited to tending a semi-automatic machine of a particular kind or to executing a single kind of work on a lathe, milling-machine, slotting-machine, planer, or other machine

¹ The Blacksmiths were not strongly organized in these shops until a few years ago.

on which a variety of work may be done. Until very recently they were denied membership in the Machinists' Association on the ground that they were not journeymen machinists. With improvements in machinery, more and more of the journeyman's work has been taken by "specialists," particularly in the large specialty shops in the East.¹ The officers of the Machinists' Union became convinced that the union was losing control of an increasingly large part of their trade, and urged that "specialists" should be admitted.² This was done in 1903.³ Many locals, however, particularly in the West, where "specialists" are not so numerous and their competition not so threatening, have not attempted to organize them.⁴ Where they are organized, it is the union's policy to set a single minimum rate for all, but in many places distinctions in rates which had grown up before they were organized have been retained. This is especially true in the railroad shops.⁵

Questions relating to the grouping of members for wage rating have been more discussed among the Iron Molders in recent years than in any other American trade union. A somewhat detailed consideration of their policies in this respect will illustrate the considerations which prevail in determining the policy of a strong union. The Iron Molders for several years have worked for the abolition of the differential, in force in some sections, between the minimum rate for bench molders and that for floor molders. This distinction rested upon the assumption that work molded on the bench, as it was smaller, required less skill and exertion. The 1899 convention, however, declared it to be the policy of the union to secure the same rate for bench as for floor molding and urged that every effort be made to bring

¹ A national official stated to the writer that in one shop there are at least 2,000 specialists and not more than 300 journeymen.

² Machinists' Monthly Journal, 1903, pp. 256, 276, 484, 493.

³ Proceedings, 1903, in Machinists' Journal, July, 1903, pp. 552-5; Constitution, 1903, Art. XXIV; Constitution, 1905, Art. I, sec. 1.

⁴ Proceedings, 1907, p. 103.

⁵ In some railroad shops the Machinists have until very recently had more than one rate even for journeymen, according to the kind of work done.

the former rate up to the level of the latter.¹ From 1900 to 1904² the propriety of the differential was a prominent subject of discussion in the series of conferences between the Iron Molders and the representatives of the National Founders' Association. The employers wished to make provision for a lower rate for bench molding in the proposed agreement, but the Molders opposed the extension or the recognition of the differential. This disagreement developed as early as the conference of June, 1900.³ In April, 1902, the employers suggested that the differential should be made a part of the agreement,⁴ and in October of the same year repeated the request, stating that their membership was "practically unanimous" on this point.⁵

The Molders maintained that the differential never should have existed, as bench work was on the whole worth as much as floor work, especially in machinery and jobbing foundries, which were the foundries to which the agreement was to apply. They argued, too, that the differential had been granted in only a few cities and would be an innovation in the great majority of places. At a conference

¹ Proceedings, 1899, pp. 82, 103, 107.

² Conferences between representatives of the Iron Molders' Union and the National Founders' Association continued from 1899 until 1904. It was hoped that a general conciliation agreement which had been entered into would pave the way to an agreement governing such matters as apprenticeship, hours of labor, regulation of output, and wage rates, similar to that existing in the stove trade (Iron Molders' Journal, 1899, pp. 157, 286, 302). In May, 1899, the joint arbitration committee, which had been provided in the conciliation agreement made in March preceding, met to adjust the difficulties between the molders and their employers in Worcester and Providence, where the molders had gone out on strike for the establishment of a minimum rate. The committee disagreed on the question of the recognition of a minimum rate. Another joint conference was then called (Ibid., 1899, p. 349). Throughout the whole series of conferences, the minimum wage was one of the chief subjects of discussion and the chief source of disagreement. Although it appeared at times that the two sides were close to an agreement providing for a national settlement of wages and conditions of employment, the minimum wage proved an insuperable obstacle.

³ MS. Minutes of Joint Conference Committee, N.F.A. and I.M.U., Detroit, June, 1900.

⁴ Iron Molders' Journal, 1902, p. 201.

⁵ MS. Minutes of the National Conference between the N.F.A. and I.M.U., Detroit, October, 1902.

held in the following February the Molders produced statistics to support this contention.¹ They also expressed the fear that if the differential were granted the employers would put work on the bench that had formerly been done on the floor and declared that this has been done where the differential was in force. In this conference of February, 1903, the employers merged the claim for a lower rate for bench molders with claims for lower rates for less competent members, and in payment for plainer work, and it was not further discussed as an independent differential. The union has persisted in the policy of abolishing the differential where possible, and in many places has accomplished its purpose.² In January, 1907, the business agent of the New York local union reported that after several years of contention the rate for bench men had been raised to that of the floor men in the New York district, embracing Brooklyn and Jersey City as well as New York City proper, and including 53 shops and 1500 men.³ There are, however, many places in which the difference in the rates still exists.⁴

The manufacturers also vainly endeavored from the outset to secure a lower rate for men engaged on the plainer work.⁵ An editorial in the *Journal of July*, 1899, expressed

¹ MS. Minutes of the National Conference, N.F.A. and I.M.U., February, 1903. The Molders' figures were for all places in which there were local unions and covered machinery and jobbing and hardware foundries. Of 304 localities including 1,907 foundries and 31,362 molders, of whom 6,352 were bench molders, 2,044 bench molders in 61 localities were subject to a lower rate than floor molders. The differential was more frequently used in New York, New Jersey, and the North Central States. According to information furnished by the National Founders' Association in 1904, separate minimum rates for bench and floor molders prevailed in 23 cities out of 111 given (*Bulletin of the Bureau of Labor*, March, 1904, p. 435).

² *Iron Molders' Journal*, 1904, p. 344; March, April, May, 1907; *Constitution*, 1907, Resolutions, No. 27.

³ *Iron Molders' Journal*, January, p. 48, March, 1907.

⁴ *Ibid.*, January, February, April, May, 1907; *Proceedings*, 1907, pp. 56, 117.

⁵ The employers' proposal was discussed at times as a lower rate for coarser work, at other times as a lower rate for less skilled men. The union representatives steadily refused to agree to allow a lower rate for coarser work, to recognize a lower rate class in any

the union opinion that any grading of the members in the same foundry according to the work they do would prove impracticable in machinery and jobbing foundries, though it might work in specialty shops. The lines of demarcation would be difficult to fix, and work and wages would tend to gravitate to the lowest grades, as had been the case where there was a difference between bench and floor rates. In April, 1901, the editor of the *Iron Molders' Journal*, though admitting that there is some work in all foundries that does not require a high degree of skill, defended the union's refusal to accept a lower rate therefor, on the grounds that such a plan was impracticable, and that the output demanded on plainer work was greater. The union representatives in the conference of October, 1902, admitted that some concession ought to be made in the rate for plainer work in some foundries, but would agree to no general wage differential, preferring to deal with each case on its merits.¹ In the February, 1903, conference they again maintained that

foundry or to surrender the coarse work to men not members of the union (*Iron Molders' Journal*, 1899, pp. 356, 643; 1901, p. 213; 1902, p. 284; MS. Minutes of the Conference, February, 1903). In the final conference held in April, 1904, the employers proposed that men on coarse work should be allowed to make their own agreements as to wages with their employers free from any union minimum. The union representatives refused even to consider this (MS. Minutes of Conference, April, 1904).

¹ In March, 1901, an agreement was made by the local union of molders in Philadelphia and the members of the N.F.A. in that city which contained the following clause: "There being in some foundries a grade of work calling for less skill than is required by the ordinary molder—this grade of work being limited in quantity—it is agreed that nothing in this agreement shall be construed as prohibiting the foundrymen from employing a molder to make such work and paying for the same at a rate that may be mutually agreed upon between the molder and the foundryman. It is understood that a molder who is working for and receiving a rate of wages of twenty-seven and one-half cents per hour, or over, is not to be asked or expected to make the grade of work referred to above for any less wage rate than he is regularly entitled to under this agreement. This does not give the molder the right to refuse to make the work if it is offered to him at his regular wage rate." The union refused to admit this case as a precedent, regarding it as an agreement made under peculiar circumstances (*Iron Molders' Journal*, July, 1902, p. 475). As noted above, the Molders in the conference of April, 1904, refused a proposal to make this settlement general.

in the machinery and jobbing foundries there were not such quantities of low-grade work as to justify a general lower rate.¹

Throughout the series of conferences with the National Founders' Association the Molders from the first showed themselves willing to consider the establishment of different rates for different classes of foundries,² although unwilling to agree to the establishment of different rates in the same foundry.

II

RATE GROUPING BY COMPETENCY

The suggestion has often been made to time-working unions that instead of setting a single rate for all men engaged in the same kind of work they should divide their members into classes on the basis of competency and fix a separate rate for each class. Nearly all important time-working unions have at some time or other faced a proposal of this kind emanating from the employers or from its own members. The employers have urged that such a plan

¹ This position was reaffirmed in May, 1904 (*Iron Molders' Journal*, 1904, p. 317). The union has in some places recently adopted lower rates for men employed on molding machines. These men are recognized as not being of journeyman status, and the kind of work on which they are engaged is clearly differentiated.

² *Iron Molders' Journal*, July, 1899, p. 349. In the Cleveland conference of March, 1901, a resolution was adopted embodying the points on which agreement had been reached. It recited that there was a disposition on each side to favor the establishment by joint agreement of equitable wage rates for "different kinds of molding." It was explained that the intent of this provision was that a rate in any locality need not apply uniformly to such subdivisions of the industry as a malleable iron foundry and a machinery foundry, but that such subdivisions might properly be placed on a different basis as to wage rates (*Ibid.*, April, 1901, p. 191). In the Detroit conference of 1902 a resolution was adopted looking toward a general agreement, national in its scope, "for each class of foundries." An agreement was discussed for machinery and jobbing foundries. There are instances of differential rates being set by the molders for different classes of shops. There were two rates in Erie, Pa., for instance, in 1902; the rate for machinery and jobbing foundries being higher (*Ibid.*, June, 1902, p. 384). A lower minimum rate has been set by some local unions for railroad shops, in which the molders are usually on plain work of a special character. Most of the molders in railroad shops, however, work by the piece.

would remove the chief defect in the minimum rate, that is, the necessity which the employer is under of paying the less competent men the same rate as the good, average man. Within the unions the proposal has been advocated on the ground that it will allow the less proficient members to obtain work and at the same time make it possible to maintain a high minimum for the better men. This policy in rating has naturally been most strongly urged upon those unions in which the differences in efficiency among members doing the same work are very large, a circumstance which throws into greater relief the fact that a large number of men of varying competency are subject to the same minimum rate.

The classification of men on the basis of differences in competency has not, however, commended itself generally to the unions. Very few unions now look upon this method of rating with favor or are willing to adopt it except as a temporary expedient. Many of the important time-working unions have had experience with the plan and nearly all of these have fought for its abolition, in nearly all cases with success. Yet at least two unions in the building trades—the Lathers and the Wood Carvers—still accept it as an unobjectionable method of wage regulation.

In many cities the wood lathers are divided into two classes with separate minimum rates on the basis of the number of laths the workman ordinarily puts on in a day.¹ In Chicago, for instance, a lather who puts on no more than fifteen hundred laths a day is rated as of the “second class,” and those who regularly exceed that number as “first class” lathers.² The rate for the first class men is usually from fifteen to twenty-five per cent. higher than for the second class. The reason given by the officers of the national union for the continuance of the system is that it allows the poorer men to obtain employment. They state that “speed counts for nearly everything in wood lathing,” and therefore the

¹ Proceedings of the Wood, Wire, and Metal Lathers, 1907, pp. 75, 112.

² *Ibid.*, p. 114.

slower men could not secure regular employment at a minimum rate that would be a fair rate for most of the members.¹ The men are usually assigned to their class by a committee of the local union.

The Wood Carvers divide their members into four classes according to competency. As a rule each member is allowed to choose his rate class in the first instance according to his own judgment of his competency. The shop delegate knows the work of the men in his shop and cases of underrating can be corrected by the local union. The secretary of the national union estimates that at least eighty per cent. of the members of a local union are in one class.²

Local unions in other trades have occasionally found it good policy to divide their members into two or three classes according to competency. When a union is first established in a locality or when a large plant is unionized the local union may find the new members grouped into two or three or even more fairly distinct wage classes. If the members have been working under the piece system there may be a considerable divergence in wages, particularly if the work is not highly skilled.³ Under these circumstances it is difficult to find one rate that will be satisfactory as a minimum. The adoption of a single minimum if high would exclude the less capable men, and probably make it impossible to secure a wage agreement with the employer; a single low minimum would not be of much support to the men of higher earning capacity. Rather than take either of these courses local unions have in many cases preferred to establish two or three rates of wages. In such cases, however, the local union expects to eliminate the lower rate as soon

¹ The wood lathers also have piece scales and in many of the smaller cities the piece system is still the prevailing mode of payment.

² In New York the rates for the different classes in 1908 were \$5.00, \$4.50, \$4.25, and \$3.75. The majority of the men were in the \$4.25 class.

³ A case in point is the classification in the Machinists' Union of "specialists" who have been working under the piece system in large specialty shops.

as possible, and it is usually urged to do this by the national union.

The general rejection by the unions of the system of grading members for wage rating proceeds from the belief that it tends to reduce wages through the competition of the more poorly paid with the better paid workmen. It has usually been found extremely difficult to assign members to their grades so exactly as to insure that some men shall not be given a lower rate by the union than the general run of members of the same capacity are receiving and are required to demand. It is difficult, too, to insure that men of lower grades shall be transferred to a higher grade when their competency rises above that of their grade. The unions consider it a further objection that the maintenance of a rate or rates below the point at which a single minimum would be set makes for the retention in the trade of a class of inefficient or partially trained workmen.

The history of grading systems among the Stone Cutters illustrates the difficulties inherent in most trades in the working of such systems. The Stone Cutters at one time made wide use of the system of classifying men according to competency and setting a separate minimum rate for each grade. In the early nineties many local unions had more than one rate of wages for the same kind of work.¹ The minimum was practically a maximum for all but their first-class men and very few of these received more than the minimum rate for their class. In many cases it was the expectation of the local union that those below the first class would be in the minority. In New York, for instance, where the system was introduced in 1896, second and third class rates were adopted so that stone cutters of less than average ability who could not command the current rate might obtain employment, but all "practical" stone cutters were expected to be in the first class.² The common practice

¹ Stone Cutters' Circular, November, 1890; January, 1891; Stone Cutters' Journal, February, May, July, October, 1893; February, 1895; February, May, October, 1899.

² Ibid., February, 1898, p. 10. The rates were \$4.50, \$4.00 and \$3.50 (Ibid., November, 1897).

seems to have been to allow the member to classify himself, subject to correction by the union. Often the member's class was marked on his union membership card. The constitution of the Buffalo local union in 1894 provided, "No member will be allowed to work for second rate of wages when the majority in his shop, together with the shop steward, decide that he is worth first rate, and any employer offering such a man second rate shall be dealt with as the association thinks proper."¹ The New York union required every employer to have at least one-third of his men in the first class and as many second class men as third class men.²

From about 1895 opposition to the plan of having "more than one rate of wages" steadily increased in the national union. At the time that New York adopted the three-rate system other local unions were reducing the number of classes from three to two or insisting on a single minimum rate.³ The chief ground of opposition was that men would work for less wages than their work warranted in comparison with that of their fellows. There was complaint that second grade men did more work in proportion to their pay than first grade men, and there was a tendency to limit the amount of work that second and third class men should be allowed to turn out. It was also charged that the system created jealousy and dissension in the membership.⁴ In November, 1899, a member of the national executive board urged that advantage should be taken of the approaching revision of the constitution to abolish the "two rate of wages" system. He argued that every workman competent enough to be admitted to the union was a first class workman and that the local unions should base their rates on

¹ Stone Cutters' Journal, July, 1894, p. 11. The wages of first class men were to be not less than forty-four cents per hour; of second class men, not less than thirty-eight cents. There were about as many men in the second class as in the first (Ibid., April, 1895).

² Ibid., June, 1902, p. 12.

³ Ibid., February, March, April, 1895.

⁴ Ibid., February, 1898; November, 1899; January, 1900, Supplement, p. 10.

the assumption that every union member was a first class workman. When the constitution was revised in 1900 a clause was inserted that "this Association thoroughly discourages the principle of more than one rate of wages."¹ Although some local unions continued to follow the plan for several years its practical abolition has been secured.²

As early as 1887 the national executive board of the Carpenters declared their disapproval of the system of rating according to competency.³ In the following year the secretary of the union called the attention of the convention to the importance of defining its position on the subject.⁴ The policy of the national union was set forth by the convention in the following resolution, which was adopted and inserted in the general laws: "We are opposed to any system of grading wages in the local unions, as we deem the same demoralizing to the trade, and a further incentive to reckless competition, having the ultimate tendency when work is scarce, to allow first class men to offer their labor at third class prices. We hold that the plan of fixing a minimum price for a day's work to be the safest and best, and let the employers grade the wages above that minimum."⁵ Minimum rates graded according to competency are found even now among the Carpenters, but practically all of these occur in

¹ Stone Cutters' Journal, January, 1900, Supplement, p. 22; Constitution, 1900, Art. XXXIII. Article XXXI in the 1907 Constitution reads "No Branch to be allowed to have more than one rate of wages." Stone Cutters' Journal, May, 1900; April, May, September, 1902; August, 1903; Proceedings, 1906 (in Supplement to Journal), p. 37.

² Stone Cutters' Journal, March, 1901; February, April, October, 1902; February, 1904, p. 19. In New York City the three-rate system is still in vogue. The national officers and the secretary of the New York local union explain that the organization there is weak, and is obliged to follow the three-rate system because this system is maintained by the Journeyman Stone Cutters' Society, a rival organization not connected with the Journeyman Stone Cutters' Association of North America. The latter is affiliated with the American Federation of Labor and is the organization referred to here as the Stone Cutters.

³ The Carpenters' national union was organized in 1881.

⁴ Proceedings, 1888, p. 20.

⁵ Constitution, 1888, General Laws, p. 30.

new or weak local unions, and the lower rates are eliminated as soon as possible.¹

The Painters and Paperhangers are also opposed to graded scales. The 1898 constitution provided that the general executive board should not give its approval to any local graded wage scale, "as it is demoralizing to the trade and an incentive to reckless competition, and when work is scarce, causes first class men to offer their labor at a second or third class price."² The adoption of a system of graded wages has been proposed by members of the Granite Cutters' union as an alternative to piece-work as a means of removing the incentive in a single rate to the "rushing" of the slower men, but the suggestion has not met with favor.³

The Machinists have had to fight long against the grading system, particularly in railroad and large specialty shops. In many railroad shops the machinists were graded before the union was established and the system has been abolished only after years of struggle.⁴ The grading of journeymen according to competency in railroad and locomotive shops was naturally combined with classification according to the kind of work to which the men were assigned. The union has secured the gradual elimination of the lower rates and the introduction of a single minimum rate for all journeymen.⁵ There are at present some local unions which classify "specialists" in large shops for separate rating; but this is looked upon as a temporary condition. The Freight Handlers have also recently opposed with success the graded system. The Boiler Makers struck against it on a Cana-

¹ The Carpenter, March, p. 33, June, p. 22, 1905; March, p. 24, April, p. 39, May, p. 42, July, p. 30, 1906; March, p. 44, 1908.

² Constitution, 1898. After 1902 the words "or third" were dropped. The present wording is "at a second class price" (Constitution, 1908).

³ Granite Cutters' Journal, April, 1886; July, 1902. See also Plumbers' Gas and Steam Fitters' Official Journal, June, 1905, p. 11; Bricklayers, Annual Reports, 1907, p. 17.

⁴ Machinists' and Blacksmiths' Journal, April, 1871, pp. 181-4; Proceedings, May, 1893, p. xxxiv.

⁵ See below, however, p. 103.

dian road in 1908.¹ On some roads it is still followed for some trades.²

The grading of men according to length of service has not ordinarily been approved by the unions. The Street Railway Employees insist, where they are strong enough to secure wage agreements, on the same minimum rate for all men after the first year of service. Rates graded according to the number of years in service have prevailed widely in railroad work. Some years ago, when engineers were generally paid by the month, it was customary to divide engineers into several wage grades according to the length of service. The Locomotive Engineers have fought for years against such a system of rating and successfully. The Brotherhood contended that a man assigned regularly to the engineer service should receive "first class" wages at once. Classification according to length of service did not represent differences in competency, but merely resulted in the employers' securing first class service from a number of men for less than the first class rate of wages.

The graded system of rates has also been urged upon the union by the employers in the printing trade, but without favorable response from the former. The employing printers have from time to time expressed the opinion that the rate should be graded directly according to the efficiency of the workmen. In 1887 the United Typothetae, the national association of employing job and book printers, appointed a committee to consider the subject of a "Graded Scale of Wages." After some consideration, the committee recommended that in all places where printers' unions are in existence such unions be requested to inaugurate a system of graded scales of wages among their members according to efficiency. In 1899 another committee appointed to consider the same subject, showed in its report a perfect apprehension of the difficulty involved. "As we understand the matter," they said, "what is called a 'scale' is supposed to

¹ *Boiler Makers' Journal*, 1908, np. 778, 853.

² *Railway Carmen's Journal*, 1908, pp. 357, 359, 420.

represent the wage value of the poorest journeymen, the minimum wage for minimum ability; the expectation being that a better man will receive higher pay than 'scale.' In any case, it seems to us that any grading must be done privately between the two parties at interest and that it would be impossible to satisfactorily grade all workmen, except by an elaborate system of examination which would be appalling to undertake as well as unsatisfactory to most of those graded below first." No local union has ever attempted to classify printers directly according to efficiency.¹

The final proposals of the National Founders' Association to the Iron Molders' union in 1904 included one for the establishment of a graded system of wages for journeymen molders. The employers' proposal was that they should be allowed to employ forty per cent. of their journeymen molders at a rate not more than ten per cent. below the "basic" rate. The "basic" rate was to be the minimum rate for not less than sixty per cent. of the journeymen. It was intended that the employer should decide which men were to receive the lower rate.² The basis of distinction between the two classes was to be that of comparative efficiency. The second rate was not to be paid simply to men doing coarse work; the employers submitted a supplementary proposal that men on coarse work should be allowed to work at any rate the employer and the workmen might agree

¹ Barnett, p. 136.

² The employers proposed in the conference of March, 1901, that they should be allowed to employ twenty per cent. of their molders at twenty-five cents a day less than the standard rate, and twenty per cent. more at fifty cents a day less than the standard. This concession was urged partly on the ground that under its provisions coarse work might be done for less than the standard rate per hour and was suggested as an alternative to the proposal of the employers that a lower rate be set for the plainer work as such, to which the union had declined to accede (*Iron Molders' Journal*, 1901, pp. 191, 213; 1902, p. 284). The later proposal was intended also to cover the case of the less efficient men. In the conference held in March, 1903, the employers' representatives modified their request and asked that they might be allowed to employ forty per cent. of the total number of bench and floor molders who had served a regular apprenticeship of four years at a differential rate ten per cent. less than the "basic" rate (*Ibid.*, 1903, pp. 248, 346).

upon. The union representatives were not willing to agree to any general rule that journeymen molders employed in foundries of the same class, apart from those incapacitated by old age and young men just out of apprenticeship, should be grouped for separate union rating on the basis of difference in competency.¹

In some unions there are systems of rating which closely resemble grouping according to competency. Several unions allow young men just out of apprenticeship to work for three or six months or a year at specified rates lower than the regular minimum. Permission to work at a lower rate is granted to young journeymen who have just finished their apprenticeship more frequently by the metal-trades and railroad-shop unions than by the building-trades unions. In the first two classes of trades there are such differences in the character of the work done in different shops that a man who has served his apprenticeship in one and sought employment in another may require several months to attain average proficiency in the shop. The Machinists particularly have many agreements with railroads allowing the payment of lower rates to men just out of apprenticeship. This lower rate usually prevails only for three months.² This does not, of course, prevent a number of young men from receiving the regular rate from the start. The Molders pursue the same policy. Early in the conferences between that union and the National Founders' Association it was agreed that the minimum rate should not apply for a reasonable period to young men of "inexperience or mechanical inferiority" just out of apprenticeship.³

¹ MS. Minutes of Conference, Detroit, April, 1904. The molders offered the following resolution as a substitute for the employers' proposal, "The wage-rate clause of a local agreement in its application shall be subject to such differentials as may be mutually agreed to by the local or national representatives of the two associations or a conference committee to whom the subject has been referred under the provisions of the New York agreement."

² Machinists' Journal, 1904, p. 1102; 1906, pp. 12, 1026; 1907, pp. 442, 650.

³ This resolution was adopted at the March, 1901, conference (Iron Molders' Journal, April, 1901, p. 191).

By the creation of a separate class of "improvers" some unions have avoided the dilemma of either requiring the payment to a recognizedly incompetent man of the minimum rate or of excluding him from the union and forcing him to work for what he can get in competition with union men. These unions allow a small number of men below the level of competency and too old for an additional year or more of apprenticeship to become members as "improvers" and work a specified period under instruction for a lower rate. This rate may be general for all "improvers" or it may be fixed separately for each one. In the former case the "improvers" form a group specially rated on the basis of competency. Such groups differ from the lower groups in ordinary systems of grading in that the workmen in them are regarded as being under instruction and in that the part of the total number of workmen in the group is very small. Improvers are found more frequently in the building trades than in any of the other groups. They have been admitted to membership, for instance, by local unions of the Carpenters, the Bricklayers, the Granite Cutters, the Marble Workers, the Plumbers and Gas Fitters, the Plasterers, the Painters, and the Tile Layers. In some local unions in which helpers are expected in time to become journeymen there is recognized a special class of improvers who are a grade above the helpers but not yet admitted to membership as journeymen.¹

In most trades there is a feeling against the admission of men as improvers. Strong unions which have a well established apprenticeship system and do not commonly admit men who have acquired their knowledge of the trade while serving as helpers are particularly opposed to the recognition of the improver. This position is due in part to a belief that the admission of such men tends to lower the general level of competency expected for journeymen;

¹ In some local unions, as for instance, the Marble Workers, the Plumbers and the Tile Layers, there is a distinct class of advanced helpers, known as "improvers" or "juniors," which may include apprentices in the last year or two of their instruction.

but it may also be ascribed to a fear that the system will afford to some members who are proficient enough to deserve the minimum, an opportunity to work for less. The Granite Cutters have come to reject the system on the latter ground, and the national union now condemns it.¹ As early as 1882 the Washington branch abolished the system because they believed improvers to be "only an evasion of the bill."² The employment of improvers was prohibited in the New York agreement of 1890, and a similar provision exists in many current wage agreements.

Nearly all unions permit members who have become unable to command the minimum rate because of old age or physical infirmity to work for what they can get. There are a few time-working unions which have no rule to this effect, because the nature of the work is such that experience offsets the loss of physical vigor,³ or because physical vigor counts for so much in the work that old men are not wanted by the employers even at lower rates.⁴ Some local unions which have both piece-price lists and time rates, as in a few of the Granite Cutters' branches, provide that old men employed by the hour or day shall be paid according to what their work averages by the piece bill. Some other local unions stipulate that the wages of the exempted men shall be agreed upon by a union committee in conference with the employer.⁵ In very few local unions does the

¹ Granite Cutters' Journal, July, 1902; June, 1905.

² Ibid., October, 1882.

³ This is stated by the national officials to be the case in the Stereotypers' and Electrotypers' Union.

⁴ The Steam Fitters, the Elevator Constructors, and the Bridge and Structural Iron Workers are such unions. Old men in the print cutters' trade drop to "felting," a minor branch of the union's jurisdiction, for which no rate is set by the union because it is usually done by the old members.

⁵ This is the general practice among the Stone Cutters' branches, and many of the Granite Cutters' agreements make similar provisions. In Quincy in 1905 the employers wished to construe "physical disability" in the exemption clause to mean slowness. The union denied that this was a proper interpretation (Granite Cutters' Journal, April, June, 1905). Old men are also exempted by the Granite Cutters from the national minimum of three dollars (Constitution, 1905, sec. 207).

number of exempted men exceed five per cent. of the membership, and the exemption is made on a much more ascertainable basis than competency.

III

THE UNION RATE AND ACTUAL WAGES

The standard minimum rate, as has already been several times noted, is in intent only a minimum, not a maximum. Union officials, in answer to the charge that the union wishes all members to be paid at the same rate, explain that the purpose of the union is to establish a rate below which no regular journeyman may go, and above which the employers are expected to grade the better men.¹

Provision for payment above the minimum.—A small group of unions provide specifically for payments above the minimum. The wage system usually followed by the Barbers has, for instance, both a minimum and a differential feature. The rates usually set include a minimum weekly wage, say ten or twelve dollars, and a percentage, usually fifty, of all that the journeyman takes in over a certain amount, say eighteen or twenty dollars. Some classes of drivers, notably milk drivers and brewery drivers, also stipulate in their agreements for a commission in addition to the minimum wage. For brewery drivers this is usually based on the number of cases of empty bottles brought back from their customers. Retail Clerks also not infrequently have provisions for commissions in their wage agreements.

Moreover, in making agreements for the establishment of a higher minimum, local unions sometimes insist on a provision that the members who have been receiving more than the old minimum shall receive the same advance in their wages as the new minimum is over the old. Sometimes the

¹ For example, *Iron Molders' Journal*, August, 1874, p. 6; July, 1876, p. 12; July, 1887; June, 1897, p. 271; March, 1900, pp. 147-8; *Granite Cutters' Journal*, July, 1902, p. 5; *The Carpenter*, January, 1906, p. 2; *Plumbers' Journal*, October, 1904; *The Woodworker*, October, 1906, p. 282; *Machinists' Journal*, 1900, p. 6; 1903, pp. 693, 947; 1907, p. 485.

increase thus obtained is a percentage of the former rate, but more often it is a flat increase. The more highly paid members thereby retain the same differential above the new minimum that they received over the old. While the differentials which are thus perpetuated must first be secured by individual bargaining,¹ such action by the union undoubtedly influences the wages of the more highly paid members, since the retention of differentials by individual bargaining after the minimum rate has been raised is by no means a matter of course.

The Machinists, in particular, follow the practice of securing advances for all in their agreements establishing new minimum rates. By the Chicago agreement of 1907, for instance, the minimum for journeymen machinists as well as that for tool makers and die-sinkers was raised twenty-five cents a day, and an increase of twenty-five cents a day secured for all who were receiving more than the old minimum rates.² The Iron Molders also often secure the same daily increase for all in their wage agreements.³ Other unions, as, for instance, the Blacksmiths, the Carpenters, and the Wood Workers, follow the same practice, but less frequently.

Another and more common form of union agreement for the payment of wages above the minimum is that of providing against the reduction of the wages of men who

¹ A few of the Granite Cutters' local unions in New England still insist that differential wages shall be determined by the worker's average output in terms of the piece bill. This practice is very exceptional, however, and is a partial survival of the provision that men should be rated above or below a "basic" rate according to what their work averaged by the piece-price list.

² Machinists' Journal, 1900, p. 478; 1901, p. 380; 1903, pp. 6, 282, 726, 743; 1906, p. 559; 1907, pp. 74, 437, 439, 744. Sometimes the increase is the same percentage increase for all (Ibid., 1903, p. 141; 1906, p. 348; 1907, pp. 262-3, 304, 354, 748, 753, 830). The Machinists also have a rule that a member who takes a position which has been vacated by a member who received more than the minimum rate must within thirty days receive the rate formerly paid (Constitution, 1901, Art. XXV; Machinists' Journal, 1903, pp. 439, 622, 639; Constitution, 1903, Art. XXIV, clause 4).

³ Iron Molders' Journal, 1901, p. 759; 1902, pp. 384, 551, 802, 970; 1903, pp. 281-2, 381, 386, 389, 558, 641, 647.

have been receiving more than the new minimum established in the agreement. Here the member who has been receiving more than the new minimum is secured in his rate by union bargaining; but union action in these cases does not, as in those previously discussed, retain the relative differentials for the higher paid men. Such provisions are common, particularly in building-trade agreements. They are in many cases merely the result of an excess of caution; but in not a few cases they are the result of experience of such reductions as they aim specifically to prevent.¹

Union policy and the minimum.—On the other hand, there are in many unions policies or attitudes with reference to the relation of output and wages which discourage the payment of wages above the union minimum. The union rule or attitude in these cases does not have its origin in any opposition to the receiving of wages above the minimum. The prevention of “rushing” and of increasing the output expected of the average workman as “a day’s work” is the direct end aimed at.

One union, the Stone Cutters, goes so far as to forbid any member receiving more than the other men on the same “job.” The officers defend this rule on the ground that it is the only way to prevent a few men in return for twenty-five or fifty cents more a day from setting a swifter pace for the others and so increasing the day’s output demanded for the minimum wage. Unless all men on the same job receive more than the minimum, which rarely occurs, except when men are in great demand, this prohibition amounts to making the minimum a union maximum. Other building-trades unions offer less explicit discouragement to receiving more than the minimum rate for greater speed in working, but in general the sentiment of the men is against a few men receiving more than the others on the same job simply on account of greater speed. A few unions have specific

¹ For instance, *Granite Cutters’ Journal*, September, 1906, p. 4; May, 1907, p. 5.

regulations against rushing or setting a pace.¹ The result is that in trades where speed can be compared men do about the same amount of work and payment above the minimum is usually for general competency or workmanship of a higher grade and not for speed.²

A few unions effectually discourage very great variation in wages on account of speed by the adoption of limits to the amount of work to be done in a day. The Lathers limit the day's work of wood lathers in many places, and a resolution establishing a national limit was adopted by the 1907 convention.³ "Stints" are observed in many local unions of other trades where the character of the work makes their enforcement feasible. Sometimes, as among the coat operators and the cutters in the Garment Workers' Union and among the local unions of the art glass workers, these rules are adopted as defences against the enforcement of larger tasks by the employers. The Meat Cutters, when a strong union, gave much attention to limiting the day's work of time workers. At a meeting of the national executive board in 1901 to consider the formulation of a scale of wages "it was declared the sense of the executive board that in order to avoid the unjust methods that are often adopted by many superintendents and foremen in forcing unjust conditions by crowding the men that the amount of work to be performed and considered a fair day's work should be determined, the same to be based on a ten hour day."⁴ In the 1902 convention the president of the union, in pointing out

¹ For instance, Bricklayers' and Masons' National Constitution, 1908, Art. XX, sec. 2; Constitution and By-Laws of the Bricklayers' Union, Number One of Maryland, 1904, By-Laws, Art. VIII, sec. 1. The 1880 Constitution of the Granite Cutters contained a resolution against "rushing."

² The "rusher," the unions contend, relies simply on his physical strength to do a large amount of work of one kind, and usually is poor at other kinds. He wears himself out and in the long run loses by this course, while injuring the interests of his fellow workman. General competency and not mere speed, they argue, should be encouraged by higher wages. See, for instance, Granite Cutters' Journal, July, 1878; February, p. 10, July, p. 4, 1904.

³ Proceedings, 1907, p. 112.

⁴ Proceedings, 1902, p. 25.

that the time had not yet come to adopt a uniform scale for hog butchers stated that the prevention of rushing should be enforced before anything else.¹ The Chicago local unions, while they were able, enforced limits which considerably reduced the average output.²

It has long been common among the Iron Molders to observe a "set day's work." Originally, a "set" was the number of castings which a man was expected by the employer to do.³ The workmen later began in many localities to adopt "sets" for themselves, and the amount of work which was to be regarded as a "set" came finally to be the subject of agreement between the employer and the shop committee.⁴ The union regards the establishment of a "set" by the shop committee⁵ as necessary at times for the protection of the workers against rushing, and refuses to give up the practice.⁶ The Molders' representatives in the conferences with the National Founders' Association were willing to agree that no local union should establish a "set" without the consent of the national executive board,⁷ but would not agree that "sets" should not be established without the consent of the employer.⁸

¹ Proceedings, 1902, pp. 38-41, 50.

² Official Journal, March, 1903. An editorial in the Granite Cutters' Journal for July, 1902, while admitting the evils of "rushing," opposed the setting of a limit to the day's work. There is a tendency in this union now to require that the faster men shall receive wages proportional to their output (Granite Cutters' Journal, June, 1902, p. 6; June, 1905, p. 4). The Boston local union places a fine on a member who does more than an average day's work without receiving proportionate wages (Ibid., July, 1905, p. 4).

³ Iron Molders' Journal, May, 1874, p. 367; December, 1885; October, 1886; October, 1887; August, 1891.

⁴ Ibid., March, 1887; July, 1904, p. 520; Proceedings, 1890, p. 30; Proceedings, 1899, pp. 23, 24.

⁵ The "set" is established only for castings which are to be made in considerable number. The average daily output of the man who first makes the castings is usually recognized by the shop committee as the established "set."

⁶ Iron Molders' Journal, 1897, p. 271; 1900, p. 530; Proceedings, 1907, p. 12.

⁷ MS. Minutes of conferences, April, 1902, and October, 1902; Iron Molders' Journal, May, 1902.

⁸ The union offered the following counter resolution: "That arbitrary limitation of output on the part of the molders or excessive demands for output on the part of the foundryman or his represen-

The union opposition to "premium" and "bonus" plans is also a barrier in the way of certain workers' obtaining more than the minimum rate. The essential feature of the "premium" and "bonus" plans is that the worker for extra output receives pay above his daily time rate. In some cases the extra pay is given if he exceeds a stipulated output, which is usually the average attained before the introduction of the plan; in other cases, the extra pay is given only if he reaches a specified output considerably in excess of the previous average output. The rate per piece offered for the additional output in nearly all of these plans is less than the labor cost per piece before the plan was adopted.¹

Premium and bonus plans of remuneration have met with opposition particularly in the metal trades; for it is in this group of trades that they have been most frequently offered to union members.² The Machinists in particular have vigorously opposed the plans.³ The convention held in 1905 declared it to be the policy of the union to secure the withdrawal of such systems of payment in the shops in which they had been introduced and forbade members under pain of expulsion to accept payment under such a plan in any shop in which it was not already established.⁴ The 1907 convention repeated this declaration of opposition.⁵ The Iron Molders also have opposed these methods of remuneration for years. As early as 1887 there was objection on

tative shall not be permitted, nor shall the practice of employing a "pace-maker" be given any countenance whatever, and it shall not be considered a violation of this provision if a molder does not duplicate the output of one so employed; but on the other hand, a molder shall be required to do at all times a fair and reasonable day's work" (Iron Molders' Journal, May, 1903, p. 346). The Molders adhered to this position in the final conference in 1904.

¹ The union opposition to premium and bonus plans is treated here as a discouragement of differential wages rather than in connection with the union attitude toward forms of the standard rate, because in nearly all cases the employer offers the plan to the workmen as individuals and not to the union as an alternative form of payment to the time or piece system. See, however, below p. 112.

² See Appendix B for a description by their advocates of some of the best known of these plans.

³ Machinists' Journal, 1900, p. 104; 1903, p. 722; August, 1904.

⁴ Proceedings, 1905, p. 78.

⁵ Proceedings, 1907, pp. 47, 68.

the part of the union to the "day and a dollar," or "day and a quarter" or "day and a half" system of payment, under which a man or group of men who reduced by a specified amount the average time for turning out a specified amount of product received a dollar or a fraction of a day's wage in addition to the regular daily rate.¹ The same attitude of hostility is maintained by the Boiler Makers² and the Blacksmiths.³

Other unions, whose members willingly work under the piece system, oppose the introduction of the premium and bonus systems. The officers of the Boot and Shoe Workers and of the Garment Workers, for instance, state that the bonus and premium systems are not often offered to their members, but are refused when they are. Both these unions are predominantly piece-working unions. A few local unions of the Typographical Union permit their members to work under the bonus plan. The national union in 1893 forbade machine operators to accept bonuses paid for greater output; but the prohibition was repealed the next year. In 1902 the rule was adopted that no machine operator can accept a bonus "not provided for in the scale of prices."⁴

The unions oppose the premium and bonus systems on two grounds. In the first place, the unions object to these systems because they are intended to stimulate the worker to exceed the amount he has been producing. This stimulus is especially strong when the bonus is paid only if a high specified output is reached, and systems with such a provision are particularly obnoxious from the union standpoint. The unions assume that the production of the increased output will require such an increase of effort and

¹ Iron Molders' Journal, October, 1887; August, 1891; 1903, pp. 26, 189; 1904, pp. 170, 173; Proceedings, 1895; Proceedings, 1899, p. 30; Proceedings, 1907, pp. 148, 160, 170.

² Boiler Makers' Journal, 1908, p. 478; Constitution, 1908, Art. XIV, sec. 13.

³ Blacksmiths' Journal, January, 1903, p. 14.

⁴ Barnett, pp. 133, 202-3.

nervous strain as to injure the health of the workers.¹ Moreover, it is feared that after a large output has been reached by some workers under the stimulus of the extra payments, the new output will become the task required from all, and that then the premiums or bonuses will be greatly reduced or withdrawn or offered only as a reward for still more intense effort, so that the daily tasks will have been considerably increased without an appreciable permanent increase in the daily rate.² The second ground of opposition by the unions is that the worker is offered a lower rate per piece for the additional output than he has been receiving.³ It is for this reason chiefly that unions

¹ It is a common belief among unionists that workmen are now required to work with an intensity which is close to, if not beyond, the limit consistent with a proper length of working life. The advocates of the premium and bonus systems described in Appendix B. assume, on the contrary, that most workers could greatly exceed their present intensity of effort without undue exhaustion or injury to health. But the advocates of the most recent of these systems put emphasis also on the possibilities of increased output from improved methods of application of human energy. Their bonus payments are intended both to stimulate the worker to greater effort and to induce him to adopt the more scientific methods of accomplishing his tasks which it is an essential part of their plans to discover and point out to him. See Appendix B.

² A series of resolutions adopted by the Molders in their 1907 convention condemning every system of payment which "in its application may work an injury to our membership" included the following: "Any system which in practice may result in abnormally increasing the amount of work which a molder must perform, any shop practice which allows an over-reaching employer to use the most active and powerful to set the pace which all must follow is unfair and injurious to the man of average capacity. The premium system as generally in practice tends to increase the molders' output without a corresponding increase in wages and is therefore unfair. The day and a dollar, day and a half, and kindred systems have been and are being used to unduly increase the amount of labor a molder must give each day to his employer and as a result of both of these general systems the molder in middle age finds it difficult to secure work in shops where they prevail, as the standard of output has been set so high that only the younger and more vigorous members can maintain it" (Proceedings, 1907, p. 170).

³ Some employers defend the lower rate for the extra output on the ground that the extra payment is an inducement to the worker to do better than he otherwise would, and so results in his receiving higher wages than he would attain under the straight day wage system. The advocates of the more recent bonus plans described in Appendix B expect the increased output to come largely from more intelligent organization of the work and from the more scientific

almost without exception prefer the straight piece system to premium or bonus systems.

Wages and efficiency.—Very little seems to be known as to the differences in efficiency among men engaged in the same kind of work. It is safe to assume, however, that they are not reflected in time-working trades with any exactness by the wages paid, even where there is no union minimum. When the union confines its action in wage rating to the establishment of a single minimum rate for members engaged in the same kind of work, it is obvious that the adjustment of individual earnings to individual capacity is not as likely to be secured as under the piece-rate system. Even where the union does not discourage large outputs, the time wages of the better men do not exceed the minimum in the same proportion that the men show efficiency above the average. It is safe to state that generally when men whose earning capacity is above that of the average journeyman are left dependent upon individual bargaining for wages above the minimum, they do not receive additional wages commensurate with their superior capacity.

Of most time-working unions it can be said, however, that the variations in efficiency within the membership are not as wide as among men in the same trades outside the union. The mere insistence on a minimum rate which is intended to be almost as much, if not as much, as the average member can successfully demand, necessarily excludes from the union men much below the average of competency. Such men cannot obtain regular employment at the union rate, and it is consequently useless for them to retain union membership.

But time-working unions do not rely solely upon a high minimum to keep their membership clear of men considerably below the average in competency. Practically all of the skilled trades require that candidates for membership

application of effort. The worker receives the bonus partly as an inducement to cooperate in the introduction of the new methods. See Appendix B. The system of payment is in these cases only a part of a wider plan.

must prove their competency or be vouched for as competent by members who have worked with them. Where the testimony of members on the same "job" is accepted as sufficient evidence of competency the test is practically reduced to ability to secure employment at the minimum rate. In a number of unions, however, as, for instance, the Plumbers, the Electrical Workers, the Stereotypers and Electrotypers, and the Bricklayers, the candidate must prove his competency by passing a serious examination set by a special board or committee. Finally, many time-working unions attempt to insure that the membership shall be recruited from competent journeymen by recognizing a normal method of learning the trade under union auspices. The apprenticeship regulations of the unions are directed in large part to this end, as are the provisions made by a number of unions for advancement from the status of helper to that of journeyman after a given number of years under instruction in the former capacity.

The maintenance of a minimum rate by a union also in another way tends to make wages uniform. The fact that a given rate is the "union" rate, and as such becomes the center of attention and the subject of negotiation and even of conflict—this makes it the presumptive rate. Moreover, many employers who are brought with much reluctance to agree to observe the minimum look upon the minimum as a "lump" rate which they have agreed to pay the union for the labor of its members. These employers often take the ground that they should not be expected or can not afford to pay the better men more than the minimum, because they are compelled to pay the union rate to many men who are not worth it. The provisions in agreements noted above against reducing the higher men are evidences of this feeling. The union officials assert that some employers' associations have a rule against paying men more than the minimum.¹ There is, of course, a greater likelihood of

¹ Granite Cutters' Journal, September, 1906, p. 4. Such agreements are said to exist among the employers in several of the building trades in New York City.

united action against the payment of differential wages when the minimum is established by agreement of the union and the employers as a body.

The same forces that lead to the payment of wages above the average rate where there is no union minimum, however, often operate to cause the payment of wages above the union minimum, even though their effectiveness is reduced by the union regulations noted above. The chief of these forces is, of course, competition. Employers are often compelled to comply with the demands of the more efficient men for higher wages in order to retain them. There are many employers, too, who pay the better men more than the minimum, as a matter of course, as compensation for superior service and as an inducement to the men to put forth their best efforts.¹

In any attempt to estimate the extent to which men receive wages above the minimum on account of superior efficiency, it is important to bear in mind that the minimum in different scales may stand in very different relation to the modal or predominant wage. The proportion of men receiving more than the union minimum in a trade is frequently large because the competitive wage has increased since the minimum was established. Where the minimum is established by an agreement it is customary to make it binding for a specified period, and if in that time the competitive wage for men increases considerably the employers will frequently offer wages above the minimum to men of no more than average competency.² Sometimes the union

¹ The payment of a wage rate above the minimum is not the sole form of differential compensation. Often the better men receive the same hourly rate but are given more regular employment, the cleanest and most desirable work, and even overtime payment for merely nominal work. Because of such considerations workmen in the building trades will often remain with an employer at the minimum rate when other employers are offering two or three cents an hour more.

² *Iron Molders' Journal*, 1900, pp. 147, 212; *Machinists' Journal*, 1906, pp. 642, 824, 827; *The Carpenter*, August, 1905, pp. 29, 40; October, 1905, p. 29; July, p. 42, November, p. 42, 1906; February, 1907, p. 49; *Stone Cutters' Journal*, 1907, passim; *Plumbers' Journal*, October, 1905, p. 10.

refrains from raising the minimum when an increased demand for men would make that possible. In 1906 the secretary of the Bricklayers' and Masons' Union cautioned the local unions against putting up the rate when the demand is brisk to a point at which it can be permanently maintained only by throwing some members out of regular employment.¹ A few branches of the Granite Cutters have provisions in their agreements to the effect that if an employer advertises for men at more than the minimum rate he shall pay the higher rate to all in his employ.²

The union minimum is sometimes fixed for other reasons below the wage rates of most of the men to whom it applies. The rate may be kept low in order to permit men to secure employment who would not be able to do so if the predominant wage were taken as the minimum. This policy has been followed in some cities by the local unions of masons in the Bricklayers' and Masons' Union. Local unions of the Machinists, too, occasionally set a low minimum rate rather than a starting rate and a higher regular minimum.³ Again, a group of workers who usually command a higher rate of pay than other journeymen in the trade may not be given a separate union rate. An instance in point is that of cabinet makers or "bench men" in the Carpenters' Union who are given the same minimum rate as machine wood workers.

The extent to which differential wages are paid above the union minimum, when that rate is the rate actually paid to the men whose efficiency is about the average, varies widely in different trades. There are trades in which differential

¹ Annual Reports, 1906, p. 299. Members may not strike for more than the minimum rate. But men may strike to enforce payment of more than the minimum from a contractor who has agreed to pay more and later refuses (*Ibid.*, p. 28).

² Agreement for Ortonville, Minn., 1902; Agreement for Burlington, Iowa, 1903; Granite Cutters' Journal, July, 1901, pp. 4, 10; August, p. 7, September, p. 2, 1906; June, 1908, p. 9. The Granite Cutters' agreements as a rule run for longer periods than those of other building-trades unions.

³ Machinists' Journal, 1904, p. 1004; 1905, pp. 139, 625; 1906, pp. 437, 441, 642, 1006; 1907, pp. 117, 646; The Carpenter, June, 1905, p. 30.

payments of this character are very exceptional. Unskilled laborers, such as the ordinary building laborers, are commonly paid one flat rate whether organized or not. The same is largely true of men paid by the day or hour in street railway or railroad service. In union agreements with the street railway companies, the minimum rate is usually the same for all after the first year of service, and the companies almost without exception make this the actual rate. Men in the railroad yard service are paid by the hour and yard engineers, firemen, conductors, and trainmen practically all receive the minimum rates set for their respective classes. Men employed in railroad shops rarely receive more than the minimum rates, although in these same trades in the contract shops a considerable part of the men receive wages above the minimum. Standardization of workmen and of work and the practice of dealing with large bodies of men as classes tend to standardize the wages paid in the railway service more than in trades calling for similar grades of skill in other industries.¹

In the building trades, the higher rates in the large cities tend to attract the better men and keep out the poorer and this tends to reduce the variations in competency from the average. The employment of men in larger numbers and the more frequent changing of the men, together with the existence of employers' associations for dealing with the unions, also make for greater uniformity in actual payment in the large cities than in the smaller places.² Wages among the Stone Cutters and the Granite Cutters seem to conform more closely to the minimum than in the other building

¹ The tendency toward uniform rates for men engaged in the same kind of work is stronger in large establishments than in small establishments for the same reasons.

² It is difficult to get anything more than estimates of the percentage of men receiving wages above the minimum. The secretary of the Composition Roofers estimates that not more than two per cent. of the members in New York City receive more than the minimum. An official of the Steam Fitters estimates that for his union in New York City the proportion is not less than five nor more than ten per cent.

trades.¹ The reason for this in the case of the Stone Cutters has been indicated.

In the printing trades, particularly among the compositors and the stereotypers and electrotypers,² and in the metal trades the proportion of workmen receiving more than the minimum is larger than in the building trades. The diversified nature of the work included within the trade and the consequent differences in experience and skill among the membership, combined with the absence of graded union rates, account largely for the prevalence of differential payments among the Molders³ and Machinists.⁴

¹ See, however, *Granite Cutters' Journal*, May, 1907, p. 4, May, 1908, p. 10.

² An officer of the local union of the Stereotypers' and Electrotypers' Union estimates that about 50 out of 650 members in New York City receive more than the minimum. The electrotype finishers, but not the electrotype founders, are included in the organization there. In Boston where both branches are included, the secretary estimates that forty per cent. receive more than the minimum.

³ A national official of the Molders' Union estimates that at least thirty per cent. of the members receive more than the minimum. This is the highest estimate obtained for any union. In the *Iron Molders' Journal* for September, 1900 (p. 532), a correspondent declares that there is not a foundry in the country in which some men do not get more than the minimum. In the number for March, 1900 (p. 147), it was reported that in Milwaukee where the minimum was \$2.75 "some of our best men get \$3.50."

⁴ *Machinists' Journal*, 1906, p. 642; 1907, pp. 74, 354, 437, 441, 744.

CHAPTER III

THE AREA OF THE STANDARD RATE

The extent of territory over which a standard rate is binding, that is to say, the "area" of the standard rate, varies greatly from union to union and even within certain unions. Some rates are standard only for a shop or plant; others are standard for a city; others, for a district or a section embracing a number of cities, or for a single state, or for a group of states; many others are standard for all shops under the jurisdiction of the national union. The majority of American trade unionists work under rates applicable only to single localities. The next largest number work under "district" rates. Those working under "national" rates constitute the smallest class; but they are for the most part included in the membership of old and established unions.

A distinction is immediately observable in the matter of the area of standard rates between time-working and piece-working unions. The great bulk of time-working unions have only "local" rates, that is, rates standard for a town, a city, or a city and suburbs; whereas in piece-working unions rates are, for the most part, standard either for only a single shop or for all the shops in a territory much wider than a single locality. Piece rates are, therefore, much more frequently district or national rates than local rates. This difference is due in large measure, of course, to a corresponding difference in the influences affecting the application of these respective rates. Difficulties are often met in trying to make piece rates standard throughout a locality which are absent in the case of time rates—technical difficulties in constructing a scale which will account for diversities in work and in working conditions in different shops. On the other hand, where these difficulties are absent, forces

which do not operate to nearly the same degree on time rates are usually at work tending to widen the area of application of piece rates beyond the single locality. In the present chapter the area of standard rates will be examined, first, as to piece rates, second, as to time rates.

I

AREA OF PIECE SCALES

The smallest practicable area of a standard piece scale is the shop. Many local unions which now have uniform local lists or are subject to lists of wider than local application had at one time separate shop scales for similar work. This is particularly true in those trades in which there is considerable variety in product within each shop, as in garment working. In such cases the first step of the workmen toward wage regulation has been to secure a recognized list of prices in each shop.¹ The shop does not, however, ordinarily continue a satisfactory unit of scale uniformity. Most unions which have had separate shop lists in the same locality have early aimed to extend the area of the rates or of the scale basis. If this has been impracticable they have in many cases favored the abolition of piece work altogether. Where unions still have entirely separate shop lists in the same locality it will usually be found that work or conditions vary considerably from shop to shop or that the union is weak or but recently organized.

Some strong unions maintain separate shop lists as a matter of accepted policy where these lists are included within a local or wider system of wage "equalization."² When shop lists are equalized, although each shop has its own separate list, all the lists are subject to a common basis, and are intended to give under diverse conditions or under diverse methods of production equal rates of remuneration.

¹ The early local unions of the Molders directed attention in the matter of prices first to securing a recognized list in each shop (*Iron Molders' Journal*, September, 1875, p. 426; August, 1876, p. 69).

² The term "equalization" is sometimes used also in the sense of uniformity in prices.

neration, and to provide the same rate for identical work where done under the same conditions. The unions which maintain equalized lists would probably be strong enough to maintain uniform lists for the same territory, if work and working conditions were uniform.

The movement toward local equalization began early among the Molders.¹ In 1862 the Philadelphia union, the leading union in the trade, with a membership of 440, and with the best prices in the trade, compromised a demand for an increase in wages by accepting equalization of prices among the shops.² The Molders of Troy secured an equalization in the same year,³ and in several other cities similar movements were set on foot.⁴ But in some cities the equalization movement made but slow headway. As late as 1880 there was complaint that in various places prices for similar work varied from ten to twenty-five per cent.⁵ By the late eighties, however, complaints of local inequalities had ceased and attention was directed toward attaining uniformity over wider areas.

The Hatters' lists of prices also are shop lists subject to local equalization, being equalized over "districts" small enough to be considered localities. Newark, for instance, constitutes one district, whereas the Oranges are in a separate district. No district contains more than two local unions. The Hatters have always tried to keep district prices equalized,⁶ but in 1898 and 1899 a special attempt was made to remove inequalities, which was regarded as successful.⁷ There is now a national minimum bill for stiff hats which must be observed in the shop prices for this class of work.⁸

¹ The lists are now equalized over districts much larger than a single city. See below, p. 139.

² *Iron Molders' Journal*, June, 1874, p. 385; May, 1881. The Philadelphia union was the first local union in the trade to maintain its existence for any considerable time; it was organized in 1855. The national union was organized in 1859. See above, p. 48.

³ *International Journal*, April, 1866, p. 3; May, 1866, p. 49.

⁴ *Ibid.*, July, 1866.

⁵ *Iron Molders' Journal*, June, 1880, p. 2.

⁶ *Journal of the United Hatters*, September, 1898.

⁷ *Ibid.*, September, 1898; April, 1899, p. 4; September, 1899.

⁸ See below, p. 162.

A large number of differences in work or in working conditions between the several shops in the same locality, particularly if the patterns are frequently changing, make a system of careful equalization of individual prices practically impossible. All that can be hoped for is an evening-up of the average earnings which can be made by persons of approximately the same efficiency in the various shops. Equalization requires for its successful working that the finished articles at least¹ shall be similar enough and stable enough to afford a basis of comparison of the prices for the articles in the lists of the various shops. Frequent changes and numerous differences in styles and in the conditions under which work is carried on discourage nearly all of the branches of the Ladies' Garment Workers' Union in New York City from attempts to establish uniform or equalized lists. The Boot and Shoe Workers, too, have separate shop scales, largely because of differences in working conditions. In Brockton, for instance, there were in 1908 eight piece-working local unions representing different branches of the trade, and of these only one had a uniform price list. In the other seven branches there are differences between the shops in the task to be done for the rate, in the amount of each kind of work to be done without change to another kind, and in other conditions affecting output, which would result in varied earning power under a uniform price list. Workers often earn higher wages in the shops with the lowest prices. The workers, though favoring uniform lists and uniform conditions as ideals, are for the most part inclined to accept the existing differences as serious obstacles to either.² Similar differences in conditions and in patterns

¹ As distinguished from the patterns of the component parts as in a garment or shoe.

² President's Report to the 1904 Convention. See also Report of the Chief of the Bureau of Information established by the 1904 Convention to secure complete lists of prices paid (Proceedings, 1906, p. 49).

A few separate shop lists are found also in trades which as a rule have uniform local or national price lists. Unions with national scales like the Flint Glass Workers, the Potters, the Iron, Steel and Tin Workers have here and there a shop or plant turning out work

account in part for the separate shop lists of the Metal Polishers and of the Leather Workers. Here as in the two unions just discussed it is doubtful if all the equalization possible under present conditions has been secured.¹ If these unions were stronger and had faced the problem for a longer period, they would doubtless have secured a closer approach to uniformity in prices, and thus ultimately to uniformity in conditions.

Separate shop scales are still maintained in trades in which uniform lists, or a close approach to uniformity in rates, seem technically feasible. Such apparently are the lists in the local spinning (other than mule spinning) and weaving unions of the Textile Workers in the large textile centers, in some branches of the United Garment Workers in a number of cities, in some branches of the Glove Workers, in the Brushmakers, in the Travellers' Goods and Leather Novelty Workers, and in the Piano and Organ Workers. Certain branches of the Garment Workers have separate shop lists in some cities and uniform lists in others.² The Brushmakers have a uniform list in New York, but not in other cities. The lack of uniform lists in these unions is not due chiefly to important differences in conditions or diversities in product, but to the comparative weakness of the union or to its unfamiliarity with the problem.³

Local scales.—In those piece-working trades in which the product is simple and not subject to many variations requiring separate rating, the earliest union scales have probably

under special conditions, for which a separate list is made. Other unions which are almost entirely time-working unions have occasional shops working under the piece system with shop lists. These are isolated cases, not groups of shops in the same locality.

¹The Ladies' Garment Workers, the Metal Polishers, and the Leather Workers are comparatively weak unions. The Boot and Shoe Workers have been strong in most of the branches here referred to only in recent years and must move slowly in local wage matters because bound by arbitration contracts.

²For instance, the Baltimore Pants Makers do not have a uniform list of prices although those of New York, including Brooklyn, and Boston have.

³The Piano and Organ Workers, the Glove Workers, and the Travellers' Goods and Leather Novelty Workers are opposed to the piece system. If strong enough they would abolish it altogether.

been for localities rather than for single shops. This has been true at least of the scales of some of the earliest local unions. The oldest Printers' scales of which we have knowledge were city scales. In New York and Philadelphia the unions were organized to "raise and establish prices," and the resulting lists were for all the shops in the city.¹ It is probable that in prices so easily compared as the price per thousand ems for each of the few sizes of type, and for common matter and the few variations from it then recognized, there was practical uniformity in the shops of each city before the local society made its influence on prices felt.²

The Cigar Makers' first union price lists were, in some cases at least, uniform lists for the city. Before any union price list was adopted in Baltimore, the prices in the various shops conformed closely, and union action was taken only in cases of attempted reduction from the prices previously paid in the given shop.³ It was also a well-understood rule that no member should offer to make cigars for less than was paid another member.⁴ But the union did not establish separate price lists for different shops. In 1861 an attempt was made by the union to establish certain local minimum prices applicable to all the shops, but the attempt was not sustained.⁵ In 1879 Baltimore joined with other cities in a movement towards uniform local bills of prices, a movement which was generally successful,⁶ but not in Baltimore,⁷ where a uniform local list was not secured until 1886.

¹ Barnett, pp. 3, 6, Appendix V.

² The New York master printers in a counter proposal to the Typographical Society in 1809 as to their proposed list of prices refer to "the customary wages" (Barnett, p. 363).

³ The union frequently sustained members in refusing to accept reductions (MS. Minutes of Baltimore Cigar Makers' Union, February 6, 1863; March 18, May 7, 14, 28, August 19, 1881).

⁴ MS. Minutes of Baltimore Cigar Makers' Union, February 1, 1861.

⁵ Ibid., November 13 and 17, 1861.

⁶ Cigar Makers' Journal, September, October, November, 1879; February, April, 1880; September, 1881; MS. Minutes of Cigar Makers' Union, No. 1, of Baltimore, May 17, 23, 30, June 7, 28, July 5, 1881.

⁷ MS. Minutes of Maryland Association of Cigar Makers, November 7, 14, 1879; January 12, March 9, 18, April 6, May 28, 31, August 6, 1880.

The Puddlers' union scale was originally a scale for all the mills in and around Pittsburgh. The price for puddling was the chief item in the scale and it was here easy to enforce uniformity.¹ There are other piece-working unions in which uniform local lists are now the rule rather than the exception. The United Garment Workers have such scales in most of their piece-working branches in those cities in which they are strong. The pants makers and vest makers particularly insist on uniform scales. The Coopers, the Tailors, the Broom Makers and the Tobacco Workers also maintain uniform local lists. The few typographical local unions which permit piece work have local piece scales, as do the remaining piece-working branches of the Granite Cutters, and, for the most part, those of the Bookbinders,

The locality is a much more desirable unit of piece-scale application than is the shop; yet for most trades the locality is not regarded as setting natural limits to the extent of uniformity in piece rates. This is true particularly of those trades whose product is to a considerable extent sold in a competitive market extending beyond the localities in which it is produced. If a uniform price list is practicable in such a trade for the shops in a city, one is usually also technically feasible for shops more widely scattered. Moreover, as comparisons between the prices paid in the competing cities can be made with relative ease, forces will be set in motion toward the establishment of a uniform list for all the shops within the area of competition. The local unions with the higher prices will struggle to bring up the lower cities to their own level, and will urge the adoption of a uniform list to insure that such competition shall not again creep in.

Several instances of such movements for lists of wider application may be found among the unions which still maintain local lists. There is a strong feeling in some of the

¹ The continuous organization of the puddlers dates from 1858, but as early as 1849 there was a great strike against a reduction in the price of puddling (Annual Report of the Bureau of Industrial Statistics, State of Pennsylvania, 1878-79, pp. 52, 151).

local unions in the pants-making and vest-making branches of the United Garment Workers for national lists. The pants makers, particularly in the higher-priced cities, are eager for a uniform price list for the whole country.¹ The Hatters, too, have adopted a national minimum bill for soft hats and have voted in favor of one for stiff hats.² The Tailors also hold to a uniform price bill as an ideal.³

For many years there has been a movement for a wider extent of scale application, and even for national uniformity in prices among the Cigar Makers. As early as 1854 the Cigar Makers of New York State met in convention at the call of the unions of Troy, Syracuse, Rochester, Utica, Albany, and Auburn. One of the objects of the convention was to establish state-wide prices. No permanent organization was formed; but the prices agreed upon were used generally as a guide, for a few years at least.⁴ In the convention held in 1866, two years after the organization of the national union, a motion to establish a minimum national price for a certain kind of cigars was laid on the table only after a long debate.⁵ When the local unions were moving for uniformity in local bills in 1879-1881 the agitation for a uniform national price list arose again.⁶ The depressing effect exerted upon prices by competition from places with low price lists was urged as a reason for uniformity.⁷ The president of the national union pointed out that some local unions could not advance prices as readily as others, and discouraged the movement.⁸ Since that time it has been

¹ Weekly Bulletin, March 4, 1903; Proceedings, 1906. See also, Garment Worker, December, 1895; November, 1901; Weekly Bulletin, October 28, November 4, 1903; December 23, 1904; September 7, 1906; August 30, 1907; Proceedings, 1900; Proceedings, 1904.

² See below, p. 162.

³ The Tailor, March, 1906.

⁴ Journal and Programme of the Twentieth Session, 1893, p. 43.

⁵ Proceedings, 1866, p. 90.

⁶ Proceedings, 1880, in Cigar Makers' Journal, October, 1880, p. 6.

⁷ Cigar Makers' Journal, March, July, 1883.

⁸ President's Report to the Fourteenth Session, in Cigar Makers' Journal, October, 1881.

discussed at intervals,¹ and complaints are still made by the local unions working under higher prices.²

The Boot and Shoe Workers are not at the present time making serious attempts to secure uniform or equalized lists, but, instead of this, are seeking to make contracts with employers wherein all disputed wage questions in each shop are left to arbitration. This policy precludes a general movement for equalization or uniformity. But it is not the union's intention to accept permanently the present variations in prices among union shops. The endeavor of the union is to subordinate wage movements to the movement for the increase of the number of factories under contracts with the union until enough factories shall have been unionized to make it possible for union manufacturers to raise wages without losing trade in competition with non-union factories. The president has repeatedly declared that a permanent raising of the wage level cannot be secured until the union factories are numerous enough to dispel the fear of competition from non-union factories.³ In some local unions there is now a desire for more vigorous action against inequalities in the prices paid in union factories in neighboring places, and it is urged that these inequalities tend to reduce prices in the better-paying factories; but the conventions steadily vote to continue the present policy.⁴

Sectional scales.—Intermediate between the scales for single localities and the national scales come a number of scales applicable over sections of territory of varying size. These are grouped here under the term "district" scales,

¹ Cigar Makers' Journal, July, 1906, p. 9.

² Ibid., April, May, 1906; May, July, 1907. The Cigar Makers have a national minimum price per thousand for cigars on which the label is used (Constitution, eighteenth edition, sec. 156). The greater part of the cigars made in most cities find a market within a short distance.

³ This policy was first adopted at the Rochester Convention in 1899, and has often been reaffirmed (Proceedings, 1899, pp. 6, 11, 23; Proceedings, 1903, pp. 8, 34; Proceedings, 1904, p. 49; Boot and Shoe Worker, January, April, 1900; January, February, April, May, July, August, 1901).

⁴ Proceedings, 1904, p. 19; Proceedings, 1906, pp. 62, 106, 125; Proceedings, 1907, pp. 148-149.

although there are wide differences in the area covered. In some cases the area in the price district has embraced over half of the territory under union jurisdiction; in others it has been but a small fraction thereof. In several unions the district scale has marked merely a stage in the progress toward a national uniform scale, and in some present instances also it has the appearance of a temporary or opportunist arrangement. In other unions the district is accepted as a satisfactory permanent area of scale application.

Prominent among the unions in which the district was only a temporary area of scale application have been the Amalgamated Association of Iron, Steel and Tin Workers, the Window Glass Workers, and the Flint Glass Workers.

The Sons of Vulcan had district scales very early. In 1867 the union jurisdiction was divided into districts instead of into states as theretofore, the purpose being to include in each district forges which should be governed by similar prices.¹ By 1876 the districts west of the Alleghany Mountains had each a scale for puddling² and an attempt had been made to secure a district scale in the East.³ The Puddlers were in general in advance of the rolling branches of the iron trade in securing district prices, though the Guide Mill Rollers of the Pittsburgh district, at the time affiliated with the Associated Brotherhood of Iron and Steel Heaters, Rollers, and Roughers of the United States,⁴ had made a scale

¹ The national organization of puddlers, the National Forge of Sons of Vulcan, was organized in 1862 (*Souvenir of the Eleventh Annual Reunion of A.A. of I.S. & T.W. of the U. S.*, 1890). In 1868 there were five districts. The first included Pittsburgh and vicinity and Pennsylvania and Maryland west of the Susquehanna. The center of the second was at Wheeling, and it ran as far west as Columbus, Ohio. The third had its headquarters at Newcastle, Pa., in 1868, but in 1869 it centered about Cincinnati; the fourth covered Illinois, Michigan, Indiana, and Wisconsin. In 1868 it included southern Ohio and Kentucky also. The fifth was an Eastern district, covering eastern Pennsylvania, New York and New Jersey (*Vulcan Record*, I, nos. 2, 4).

² *Vulcan Record*, I, no. 6 (1870), p. 10; *Proceedings of Amalgamated Association of Iron and Steel Workers*, 1877, p. 65.

³ *Vulcan Record*, I, no. 14, p. 13.

⁴ Organized in 1872.

for their district by agreement with their employers in 1872.¹ In the convention of 1877, the first to be held after the rolling branches had amalgamated with the puddlers,² the president urged upon the several branches the necessity of uniform prices for each district to prevent manufacturers forcing reductions on the ground that other mills in the district paid lower prices, and recommended that the lodges should hold district conventions in each district for the formulation of uniform district scales.³ The convention adopted this recommendation and inserted an article in the constitution to the effect that each district should have a district scale for all the mills in the district.⁴ The Amalgamated Association thus definitely adopted the policy of district scales.⁵

The earliest district scales, however, did not cover all branches of work. Uniformity was hard to introduce and at first only the fundamental operations were put in the scale, and rates provided only for the leading members of the crew.⁶ Two of the districts, the fourth—in which all

¹ This agreement is given in the Appendix to the Proceedings of the 1880 convention of the Amalgamated Association of Iron and Steel Workers.

² In 1876 the Associated Brotherhood of Iron and Steel Heaters, Rollers, and Roughers of the United States (organized in 1872) and the National Union of the Iron and Steel Roll Hands of the United States (organized 1873) joined with the United Sons of Vulcan to form the A.A. of I. and S.W. of the U. S. The United Nailers were admitted at the first convention (Report of Proceedings of the National Grand Lodge of the Iron and Steel Heaters, Rollers, and Roughers of the U. S., 1876; Proceedings of the Iron and Steel Roll Hands' Union, 1876; Proceedings of the Iron and Steel Workers of the United States, 1876).

³ Proceedings, 1877, p. 57.

⁴ *Ibid.*, p. 73; Constitution, 1878, Art. XIV. The lodges were to try to have the scales signed in district conferences with the manufacturers, and failing in this, to present the scale separately at each mill.

⁵ The Amalgamated Association adopted the districts of the Sons of Vulcan of which there were eight in 1876. The five districts of 1869 had been retained with some modifications of boundaries and three more had been added.

⁶ Not until 1879 were prices set in the Pittsburgh and Cincinnati district scales for such operations as scrapping, shingling, and muck rolling (Proceedings, 1880, p. 343; Proceedings 1881, p. 562; Proceedings, 1882, p. 802; Proceedings, 1883, p. 1249).

but a few of the mills were steel mills¹—and the Eastern district, east of the mountains—in which the mills were poorly organized—were unable to enforce uniform district scales.² There were also some lodges outside any district which followed as closely as they could the prices of the nearest district or those of the Pittsburgh district, as, for instance, the Birmingham, Alabama, lodge in 1882.³ Mills which did special work or had special equipment in rolls were given special prices differing from the district scale. A steel rail mill in Chicago, for instance, where more than the usual amount of automatic machinery was used, was given a special scale.⁴ The Carnegie Bros.' mill at Pittsburgh had special scales for rolling,⁵ and there were other similar instances.⁶ The "Memorandum of Agreement" prefacing the scale provided that on mills running on specialties separate contracts might be made between the manufacturers and the rollers. Any manufacturer in the district was to be given the same prices as had been extended to any other using the same special equipment.⁷

The Window Glass Workers retained for years three scale districts with different rates of wages. There had been a national organization of the four branches of the window

¹ Proceedings, 1884, p. 1340; Proceedings, 1885, p. 1561. The steel mill lodges had been authorized by the National Association in 1881 to hold separate district conventions, and draw up district scales (Proceedings, 1881, p. 712; Constitution, 1882, Art. X, sec. 8). In 1882 representatives of steel mill lodges held a convention and adopted a scale for the fourth district but were not very successful in their attempts to establish it. Later another convention was held and a reduced scale adopted, but it was not widely enforced (Proceedings, 1883, pp. 1183-1194; Proceedings, 1884, p. 1340). The union never was able to establish successfully a district or national scale for the steel mills.

² In 1881, a scale was agreed upon for "Philadelphia and vicinity" (Proceedings, 1881, Appendix). Prices in nearby places, however, varied considerably from this scale.

³ Proceedings, 1882, p. 802.

⁴ Proceedings, 1884, p. 1320.

⁵ Proceedings, 1881, Appendix, "Scale expiring May 31, 1882." In the Pittsburgh Price List for 1884-5 this scale appears as "Scale for Carnegie Bros.' Mills and mills similar to them."

⁶ Proceedings, 1880, Appendix.

⁷ Proceedings, 1884, p. 1401.

glass trade since 1879;¹ but it was not until 1901 that a uniform wage list was reached. In the early conventions each of the three wage districts, the Western, which included the factories west of the Alleghany Mountains, the Northern, covering Eastern Pennsylvania and New York, and the Eastern, confined practically to New Jersey, had its own wage committee. After the scale for each district had been passed on by the convention, the district conference committee obtained what it could in conference with the manufacturers of its district. The Western scale was, however, usually followed as a guide by the other districts.² The Northern scale was generally ten per cent. lower than the Western, and the Eastern was lower to a varying extent. In 1900 and 1901 both the Eastern and Northern scales were seven and one-half per cent. lower than the Western.³ There were also minor differences in the scales as to working rules.⁴

In most branches of the Flint Glass Workers' Union⁵ sectional scales preceded national uniform scales. The earliest uniform scales were adopted for the local unions west of the Alleghany Mountains. The Prescription department had a list for local unions west of the mountains in 1881, which made a list previously enforced by three local unions⁶ uniformly operative throughout the West. In 1883

¹ For several years prior to 1879 the blowers, the gatherers, and the cutters each had a distinct organization within the Knights of Labor. In 1879 the Blowers' Assembly and the Gatherers' Assembly consolidated, and a few months later absorbed the Cutters' Assembly in their new organization. The following year they admitted the flatteners who had belonged to the Knights of Labor as individuals. The national organization of the four subdivisions of the window glass trade was then complete (*Complete History of the Manufacture of Window Glass together with a Review of Labor Organizations*, by Wm. F. Hendrickson, 1898).

² Report of the Convention, 1884.

³ Scale of Wages and Rules for Working, for Blast ending June 15, 1900; *Ibid.*, for Blast ending June 30, 1901.

⁴ Report of Convention, 1884, p. 29; Constitution, 1886, Art. IX; Scale of Wages and Rules of Working, for Blast ending June 30, 1892, for Northern District; *Ibid.*, for Western District.

⁵ The American Flint Glass Workers' Union was organized in 1878.

⁶ Minutes of Session of 1880, p. 50; Minutes of Session of 1881, p. 53.

the Pressed Ware department in grappling with the problem of introducing uniformity in its price lists shrank from the proposal to formulate and enforce a uniform list for all factories under union jurisdiction, but recommended that the local unions of the East and those of the West should present uniform lists for their respective sections at the next convention.¹ In 1884 the Shade department adopted a Western list for certain classes of ware, and the Eastern local unions were urged to adopt a similar list for themselves.² In the 1887 convention uniform Eastern and Western lists were urged by the Iron Mold committee as giving much greater uniformity than had hitherto been attained and as tending toward a national uniform list for that department.³ In all of these departments⁴ the sectional lists gave way after a few years to national uniform scales.⁵

The sectional lists of the Chain Makers may be considered as a step toward desired national uniformity. The Chain Makers have different sectional scales East and West of Pittsburgh for scarf-link chains and the union hopes ultimately to reach a national uniform scale for this work.⁶ The Shingle Weavers have three districts, each with full power to adopt its own scale.⁷ These district scales are,

¹ Minutes of Session of 1883, p. 57.

² Proceedings, 1884, pp. 83-85. In 1884 the local unions of the Ohio Valley and the West also began a movement for uniformity in lists in the various departments in general flint glass factories under their jurisdiction (*Ibid.*, p. 13).

³ Proceedings, 1888, p. 25. A Western list had been proposed in the 1886 convention (Proceedings, 1887, pp. 85, 111).

⁴ In 1887 the possibility of giving up uniformity in the list in order to secure a higher list in the East than it was possible to enforce in the West was suggested to the Prescription department; but the suggestion was not followed (Proceedings, 1887, p. 39).

⁵ See below, pp. 150-152. In glass bottle blowing and in the pottery trade there were for several years separate union price lists for Eastern and Western factories, but for most of this time there were also separate organizations in these sections, each with a uniform list for its own jurisdiction. See below, pp. 155-160.

⁶ Proceedings, 1907, pp. 35-36; Proceedings, 1908, pp. 31, 66; Constitution, 1908, Art. XII, secs. 2 and 3; Proceedings, 1904, pp. 6, 18, 21.

⁷ The Shingle Weaver, January, February, 1903; January, 1904; Constitution, 1909, Art. IX. The three districts are: (1) Washington, Oregon, and British Columbia; (2) Michigan, Wisconsin and Minnesota; (3) California.

however, intended as minimum and not as uniform scales, for local unions are expected to demand higher prices where conditions are less than normally favorable.¹ The Shingle Weavers are moving for a national scale, but the scale desired is a scale of minimum day rates, for the organization favors the abolition of piece work entirely.²

Some of the most powerful American trade unions, notably the Mine Workers, the Iron Molders and the railway brotherhoods, use the district as an area in rate making with no apparent tendency toward a wider area for the application of a uniform scale basis. While the rates among the Mine Workers in each competitive field are not uniform, they are derived by the application of recognized differentials to a basic rate. The competitive district has been the unit in rate application since 1898 in the "central competitive field," which includes the bituminous mines of Western Pennsylvania, Ohio, Indiana, and Illinois.³ Though in 1906 there was no interstate settlement, the operators of each state making agreements separately with the union,⁴ and though in 1908 the Illinois operators were not included in the interstate conference in which the scale was agreed on for the other three states,⁵ the rates adopted stood in the

¹ The Shingle Weaver, February, 1905; Minutes of the Convention, 1905, p. 12; Proceedings, 1907, p. 37.

² See below, p. 200. In 1904 the Meat Cutters adopted a scale for the packing centers of the West which included a piece price list, and were moving toward a national uniform scale. The Longshoremen had maintained for several years prior to 1908 a scale of piece rates for unloading ore, coal, stone, etc., at the Lake Erie ports, by an agreement with the Dock Owners and Managers of Lake Erie (Proceedings, 1905, p. 110). This agreement was renewed in 1906 after a brief strike, but was not renewed in 1908 (Proceedings, 1907, pp. 19-22; Proceedings, 1908, pp. 21-22). The union has also many local port piece scales, as for instance, those for unloading lumber at various ports, and for unloading grain at Buffalo.

³ For an account of the attempts before 1898 to maintain a basic rate for the central competitive field and for details of the present system, see an article in the Bulletin of the Bureau of Labor, March, 1904, by F. Julian Warne; also Warne, "The Coal Mine Workers."

⁴ Minutes of the Special Convention, 1906, pp. 11, 56-92; Proceedings, 1907, pp. 35-38.

⁵ The union favored the renewal of the plan of an interstate conference for a settlement for the four states in 1908 (Proceedings, 1907, p. 39; Proceedings of the Nineteenth Annual Convention, 1908,

same relation to each other as in the years when the interstate conferences were in full vigor.

When the plan for an interstate settlement of the rates to be paid for mining in the central competitive field was adopted in 1898, neither the union nor the operators contemplated the establishment of a uniform rate for mining over the whole field. The design was to give "all fields and districts fair competing opportunity," which necessarily meant different rates, but rates differing in such a way as to secure differentials equivalent to the relative advantages or disadvantages of geographical position. A uniform basic price was adopted for screened coal in Western Pennsylvania, Ohio, and Indiana. Illinois operators were to continue to pay on the "run of mine" or unscreened coal basis, and the Illinois basic price was fixed at an agreed upon differential below the basic price for screened coal in the other three states. The Indiana operators were to have their choice of paying on the Illinois or the tri-state basis.¹

The union grew rapidly after 1898, and in 1903 an interstate agreement similar to that for the central competitive field took the place of separate state agreements in the "Southwestern competitive field," including the states of Missouri, Kansas, Arkansas, and the Indian Territory.² Texas was also included in this agreement from 1904 to 1906.³ Outside of these two competitive fields the union

pp. 30, 355, 366; Proceedings of the Reconvened Nineteenth Annual Convention, 1908; Proceedings, 1909, pp. 52-54; United Mine Workers' Journal, May 14, 1908).

¹ Proceedings of Joint Conference, 1898. The run-of-mine price is approximately sixty-one per cent. of the screened-coal price. The agreement also provided that if run-of-mine coal was paid for in the Western Pennsylvania and Ohio districts, and this was at the option of the operator, the price was to be determined by the actual percentage of screenings passing through a uniform screen defined in the agreement.

² Minutes of the Convention, 1904, pp. 27-28; Joint Agreement for scale year from September, 1903, to August 31, 1904, the Southwestern Coal Operators and the United Mine Workers of America; Joint Agreement adopted June 16, 1906, for period ending March 31, 1908, for Missouri, Kansas, Arkansas, and Indian Territory; Proceedings, 1907, p. 39; Proceedings, 1909, p. 55.

³ Joint Agreement, 1904-1906, the Southwestern Interstate Coal Operators Association and U.M.W.A.; Proceedings of Reconvened Convention, 1908, pp. 46, 53.

makes agreements for states, and for districts and even for single mines when scales of wider application cannot be secured.¹

Within the central competitive field the standard rates actually to be paid are derived from the basic rate by the application of differentials. In the Indiana bituminous district the rates are practically uniform; in Ohio there is some adjusting of rates from the Hocking Valley rate as a basis. In Illinois the rate actually paid varies from the basic rate very frequently. The basic Illinois rate, which is fixed in connection with the basic rate for the other three states of the competitive field, is the rate paid at Danville. The practice is to fix the rates actually paid in each of the eight other sub-districts of the Illinois district after the Danville rate has been determined. Each sub-district has its own admitted differential from the Danville rate. These other rates are so adjusted as to enable all the fields to compete. Where abnormal physical conditions exist, local adjustments are made from the sub-district rate.² This system of differentials was established in Illinois in 1898 and there has been no material change in it since.

The Iron Molders were the first union to adopt and continuously retain a system of prices with the competitive district as the recognized permanent unit. Though each stove foundry has its separate price list, all prices for similar work within the competitive district are the same, and the prices of different patterns vary in proportion to the difficulty of the work. The system has also a national basis, inasmuch as all increases or decreases are percentage changes affecting all prices alike, and inasmuch, also, as the maintenance of equalized prices in each district is secured under a national agreement. The present system of district equalization with a national scheme of uniform percentage

¹ Proceedings of Reconvened Convention, 1908, p. 46.

² The number of local questions which had to be settled by the Illinois Operators and Miners after the adjournment of the interstate conference was given as a reason by the Operators for not going into that conference in 1908 (Proceedings of Reconvened Convention, 1908, pp. 11, 71, 108; Proceedings, 1909, p. 52).

changes in existing prices was not instituted until 1892. It was preceded, however, by years of striving on the part of the union toward uniformity in prices or equalization of price lists throughout the entire union jurisdiction, and was inspired by a desire for some system of fixing prices on a national uniform basis.

In the circular calling the first national convention in 1859 the Philadelphia union included "one standard of prices throughout the country" as one of the benefits to be secured by national organization.¹ In 1866 the Cincinnati local union submitted a tentative list as a basis for a uniform price list.² The idea of the uniform list seems to have been slowly abandoned with increasing diversity of patterns in favor of a national system of equalization. A resolution favoring the appointment of a national wage committee to adopt a national uniform scale was passed over in the 1886 convention.³ In 1887 there was another suggestion for a national system of piece prices, but these were to be per pound.⁴ The president of the union in 1886 welcomed the foundation of the Stove Founders' National Defense Association in the hope that it would help to keep prices equalized.⁵

In the absence of a recognized national system of equalization before 1892, it was the policy of the union to keep prices in the different cities as nearly equalized as possible.⁶ The officers believed that progress was being made in this direction. In February, 1874, the *International Journal*, the

¹ "Conciliation in the Stove Industry" by John P. Frey and John R. Commons in *Bulletin of the Bureau of Labor*, No. 62.

² *International Journal*, October, 1866, p. 222.

³ *Proceedings*, 1886, p. 21.

⁴ *Iron Molders' Journal*, January, 1887, p. 4.

⁵ *Proceedings*, 1886, p. 4.

⁶ In 1867, however, in answering the complaint of the Western manufacturers that prices were much higher in the West than in the East while the cost of living was not higher, the president of the Molders stated that prices ought to be twenty per cent. higher in the West on account of the higher cost of living and that there was not much more than that difference between Western and Eastern prices. He also complained that a manufacturers' association kept prices down in the East.

organ of the Union, claimed that prices were fairly well equalized East and West, though the East paid a little more.¹ The president of the union in 1876 regretted that some inequalities existed but denied that there were great differences for similar work.² In 1882 the *Journal*, in commenting on the demand of the foundrymen of Troy for a reduction on the ground that they could not compete with lower-priced places declared that prices in the different cities of the United States, taking everything into consideration, were as nearly uniform as it was practicable to make them.³ In 1883 the *Journal* repeated that where facilities were equal prices were as nearly equalized as they could be.⁴

The movement for a national system of uniform or equalized prices derived its strength chiefly from the feeling that only by uniformity in labor cost could increases in wages be secured and reductions avoided. The union position for years has been that competition necessitates uniformity, irrespective of the differences in the cost of living. The editor of the *Journal* in advocating in March, 1875, the equalization of prices all over the country, declared that self-preservation demanded this course. Employers had to compete with each other and they would equalize prices if the union did not, but their equalization would be on the basis of the lowest rates. He also took the ground that it was unjust to a manufacturer to allow his competitor to pay lower wages.⁵ In the agreement for district equalization with the Stove Founders' National Defense Association, equal prices for all competitors, irrespective of location or local differences in the cost of living, is the principle frankly followed.⁶

¹ *International Journal*, February, 1874, p. 259.

² *Iron Molders' Journal*, July, 1876, Report of Thirteenth Session.

³ *Ibid.*, December, 1882, p. 6.

⁴ *Ibid.*, February, p. 9, March, p. 8, 1883.

⁵ *Ibid.*, March, 1875, p. 226. See also *Ibid.*, December, 1866, p. 206; July, 1876; June, 1880, p. 2.

⁶ The same policy was urged by the representatives of the union upon the National Founders' Association also. See below, p. 171. Something of this same feeling as to the effects of unequal prices exists among the molders of light hardware castings for "house

As early as 1887 the president of the Stove Founders' National Defense Association notified the president of the Iron Molders' Union, during negotiations for the settlement of a strike in St. Louis, that he favored a meeting of committees from each organization to settle on a scale of prices for the trade for the year.¹ The union favored the plan, but the executive board of the Defense Association was not ready to proceed with it then. The St. Louis strike led to a general struggle between the union and the Defense Association, and it was not until March, 1891, that a joint committee of the two organizations agreed upon a plan of conciliation for the prevention of strikes and recommended to their respective organizations "that they consider the desirability of annual agreements for the rate of wages."² In February of the following year an agreement was reached that a general rate of wages to hold for a year at least should be adopted by the two national organizations.³ The prices then existing were to be taken as the established prices, except that inequalities were to be removed, and the prevailing prices were to be subject otherwise only to uniform changes. These percentage changes might be made only at the expiration of each year and only by the conference, after request, with notice, from one party. Inequalities in existing prices within a foundry or between foundries in the same district were to be adjusted on the comparative basis by agreement between the employer and the local union, with final appeal to the national joint committee. New work was to be priced locally on the same comparative

trimming goods." In 1891 a local union of New Haven appointed a committee to get in touch with other local unions engaged on that class of work so as to arrange for uniformity in prices for the same patterns throughout the country. The reason given was that when the molders in this line of work asked for an advance in some localities they were invariably told by the employers "We can't pay more than our competitors" (Iron Molders' Journal, November, 1891).

¹ Iron Molders' Journal, May, 1887, p. 7; Proceedings, 1888, pp. 5, 7.

² Proceedings, 1890, pp. 69, 83; Iron Molders' Journal, April, 1891, p. 4. For the history of these conferences, see Frey and Commons.

³ Iron Molders' Journal, March, 1892, p. 4; Conference Agreements, Clauses 5, 6, 7, 8.

basis, so as to maintain equalized prices throughout each district.¹ This system, with amplifications, is still in force.²

The size of the competitive districts in stove molding varies and their boundaries have never been definitely laid down. New England is regarded as a single district as is New York, and as is Pennsylvania. In the Central West the districts run across state lines, and in the South several states are in one district. There is no formal system of equalization between the districts. Stoves are shipped from one district to another, but in large part these stoves are of different kind from those made in the districts into which they are shipped. Prices between districts do not vary enough to give rise to a demand for formal inter-district equalization. An official of the national union states: "There may be a stove manufacturer or two who would look with favor upon the plan of pricing the molding of stoves on the basis of the territory where they are to be sold, because this would give them some peculiar advantage, but I know that the great majority of stove manufacturers are well satisfied with the system as it is to-day."

The Stove Mounters, who erect or mount the stove from

¹ New work is priced by comparison with work already made in the foundry unless those prices are found to be not in accord with competitive prices in the district (Clause 7, 1892, as amended 1903; *Iron Molders' Journal*, 1903, p. 252). When no similar stoves are made in the same shop the prices are to be set by comparison with similar stoves made in the district (Clause 14, Conference, 1898; *Iron Molders' Journal*, 1898, p. 212).

² The policy of the union is to force all other employers to pay the same increases that are paid by the Stove Founders' National Defense Association. The membership of this organization includes the producers of seventy-five per cent. of the stoves made in the United States. In 1898 the Defense Association asked for a reduction in prices for 1898-99. It was agreed in the conference of 1898 that the existing prices were to hold for the following year and the union was to do all in its power to prevent any of its members accepting a reduction, but if five per cent. of the union stove molders in any district accepted a reduction a new conference might be called by the Defense Association and if no alternative was found the union would grant a similar reduction to the members of the Defense Association. The conference was not called (*Iron Molders' Journal*, 1898, p. 214). In 1899 when it was agreed in conference that there should be an increase in prices, the union forced employers who were not members of the Association to give the same increase (*Ibid.*, 1899, pp. 161, 228).

the molded parts also have shop piece-lists, which the union has attempted to equalize locally for some years. In 1902 the union entered into an agreement with the Stove Founders' National Defense Association similar to that with the Molders for a system of district equalization and national percentage changes.¹ In 1907 the agreement was given up after a referendum vote for its abrogation.² The union tries to keep prices as uniform as it can without such an agreement.

The railroad unions' mileage rates for men in the train service are uniform for men in the same class of service for each road or system. Certain branches or runs are given separate mileage rates, but these are recognized differentials from an understood uniform mileage rate to meet differences in conditions affecting the actual mileage made. The unions are striving for uniformity of rates on all roads in the same section, but as yet the basis of negotiation for actual mileage rates, as well as the unit of application of the agreements establishing the rates is in the main the road or system.³ In the West uniformity between systems has been much more nearly secured than in the Southeast and the East. There are well understood standard mileage rates which are enforced on all the Western systems, except where there are special conditions justifying departure therefrom. The officers of the Conductors and Trainmen have met several times in conference with the general managers of the Western roads to settle uniform demands on all these roads on such matters as hours of labor, percentage increases in the standard mileage rates, and "double-heading." After a general agreement is reached in such conferences on a wage demand the details of the settlement are worked out

¹ Proceedings, 1903, p. 21; Proceedings, 1906, p. 6.

² Proceedings, 1908, p. 6.

³ The union wage committee is usually representative of all the men in that branch of the service under the same general manager. Except on the Pennsylvania railroad, which adopts separate schedules east and west of Pittsburgh, the practice is for each road through its general manager to make a schedule of mileage rates in agreement with the union committee for the road or system as a unit.

separately for each road. This practice was begun in 1902. In that year an organization was effected of the general committees of the Conductors and Trainmen on all the Western roads. The immediate purpose was common action on a uniform wage-increase demand on all of these roads. A uniform demand was agreed upon, and secured on one road after another.¹ The two unions retained this general committee of road committees and since 1902 it has several times met with a corresponding committee of general managers.

The railroad unions, particularly the Railroad Trainmen and the Railway Conductors,² are trying to secure in the East the same uniformity that exists in the West, by bringing up the lower paid roads to the level of the highest. The unions hold to the ideal of national uniformity in rates, but for the present the task of standardizing rates in the East is the immediate practical problem. Uniformity of rates on all roads in the same section is demanded by these unions not so much because unequal rates afford competitive advantage as because the unions are anxious to secure as high rates as possible for all roads, and because they do not admit that there is any good reason why some roads should be allowed to pay their men less than others for the same work.

National scales.—National piece scales are maintained by the Flint Glass Workers, the Glass Bottle Blowers, the Window Glass Workers, the Potters, the Lace Curtain Operatives, the Gold Beaters, the Table Knife Grinders,³ the Elastic Goring Weavers,⁴ the Wire Weavers, and the Tin Plate Workers. The scale of the Iron, Steel and Tin Workers is uniform west of the Alleghany Mountains, and the Association controls very few mills east of the moun-

¹ Proceedings of the Railway Conductors, 1903, pp. 18-25; Proceedings, 1905, p. 10; Proceedings of the Railroad Trainmen, 1905, p. 10.

² The Brotherhood of Railroad Trainmen, which includes conductors as well as brakemen and baggagemen, and the Order of Railway Conductors act jointly on nearly all roads in negotiating with the general manager for rates and working rules.

³ This union is confined to Massachusetts and Connecticut.

⁴ This union has now but two locals, both in Massachusetts.

tains. The shirt and overall workers of the United Garment Workers have a national minimum piece bill, and the Hatters have a national minimum bill for stiff hats and have voted in favor of a bill for soft hats. The Brushmakers in 1904 attempted to put in force a uniform scale, but unsuccessfully.

The unions which first attained national scales were unions in highly skilled trades, concentrated in a comparatively small number of localities, such as the iron and steel, and glass trades. These characteristics were important sources of union strength, and made possible vigorous agitation for uniformity in wage scales. In such trades also differences in piece rates were more likely to be noted, the manufacturers in each locality being more on the alert to avoid having higher rates imposed upon them than were paid in other places. National lists were attained in several of these trades shortly after district or sectional scales had been well established. These district scales had shown the feasibility from a technical standpoint of framing a single list of prices to apply to a number of plants in separate localities, and served to bring to the attention of manufacturers in the higher rated districts the differences in prices between sections. Even before competition between manufacturers in different sections had become keenly felt in these trades the manufacturers in the districts with the higher lists were averse to paying more per unit for work than manufacturers elsewhere. The disinclination of the manufacturers in the higher-rated districts to continue to pay more than was paid in other districts was one of the reasons for the desire of the union to bring the lower-rated districts up to the level of the higher.

The Iron, Steel and Tin Workers obtained a uniform national scale for nearly all of the branches of its membership by 1885. This scale applied west of the mountains only; but as the organization was never strong enough in the East to maintain a separate Eastern scale for successive years, the Western scale may be regarded as a uniform scale

for its practical jurisdiction. From the beginning there were tendencies toward uniformity in the several district scales of the Association. The price for boiling throughout the trade had long been affected by the Pittsburgh price, and union agreements were made in some districts on the basis that prices should be certain amounts more or less than Pittsburgh prices.¹ The Cincinnati or third district scale for finishing mills adopted in July, 1881, was specifically the Pittsburgh scale with ten per cent. added,² and the Wheeling or second district scale for the rolling branches in 1881-1882 was the same as the Pittsburgh scale.³ In the fourth district the manufacturers agreed in 1881 to the Pittsburgh scales for puddling and for some of the finishing branches.⁴ When the nail-plate rollers, pursuant to an instruction of the 1881 convention, met in separate convention in 1882 to formulate a uniform scale for nail-plate rolling west of the mountains they adopted the Pittsburgh scale as the uniform scale.⁵

The convention of 1880 required that all district scales should be referred to national committees of their respective branches for approval before presentation to the employers.⁶ As a further step toward uniformity, and to make universal a practice common in some branches, the convention of 1881 enacted that all the other districts should take the scale adopted by the first or Pittsburgh district as the basis of their scales.⁷ In 1882 the first district struck for an advance in prices and nearly every mill in the other districts became involved.⁸ Both divisions of the third district, the Cincinnati division and the St. Louis division, soon returned

¹ Proceedings, 1880, pp. 408, 459, Appendices; Proceedings, 1881, p. 799.

² Proceedings, 1881, p. 574; Proceedings, 1880, Appendices.

³ Wheeling Scales of Prices, 1881-2.

⁴ Proceedings, 1881, p. 665; Proceedings, 1882, p. 799.

⁵ Proceedings, 1881, p. 682; Proceedings, 1882, p. 800. The nailers withdrew from the Amalgamated Association in 1885 to form an independent organization known as the "United Nailers of America" (Proceedings, 1885, pp. 1556-9).

⁶ Proceedings, 1880, p. 462.

⁷ Proceedings, 1881, p. 693; Constitution, 1882, Art. XIV.

⁸ Proceedings, 1882, p. 814.

to work on the understanding that they were to receive the same prices as Pittsburgh when the Pittsburgh scale should be settled, the previous prices to hold until that time.¹ The second district retained its differential of twenty-five cents above the Pittsburgh price when a settlement was finally reached for the first, fourth and sixth districts.² The settlement of 1882 thus left the scales for the various branches, except the steel converter and furnace men and steel rail rollers,³ uniform west of the mountains, save for the twenty-five cent higher rate in the second district for boiling.

But before uniformity in all branches could be adopted as a definite policy by the Association the second, third and fifth districts had to relinquish their claims for differentials above the Pittsburgh rates. Although both divisions of the third district had been compelled to accept Pittsburgh prices in 1882, neither the Cincinnati division nor the St. Louis division, which became the fifth district in 1882, was willing to accept the loss of differentials above Pittsburgh prices as permanent.

The plan of taking the first district scale as the basis in all the districts having proved unsatisfactory,⁴ the convention in 1882 enacted that all the district scales for iron mills⁵ should be referred each year to a national "scale convention" which should meet before the regular convention. The scales were still to be presented to the manufacturers in separate district conferences by conference committees, appointed by the president of the national union.⁶ As ratified by the first scale convention in 1883, the price for puddling in the fifth district scale was \$6.00 per ton—fifty cents

¹ Proceedings, 1882, pp. 804-6, 814-17; Proceedings, 1883, p. 1197.

² Proceedings, 1883, p. 1085.

³ The iron and steel rollers had made an attempt in 1880 to formulate a uniform scale west of the mountains but were unable to agree on more than basic prices (Proceedings, 1880, p. 460; Proceedings, 1881, pp. 561-2). The other steel branches failed to establish even a district scale; see above p. 131, note.

⁴ Proceedings, 1882, pp. 946, 967, 799, 800.

⁵ The steel converters and furnacemen and the steel rollers were empowered to make district scales separately for themselves.

⁶ Constitution, 1882, Art. X.

above the Pittsburgh rate, and the prices for finishing were also higher than Pittsburgh prices.¹ The third district also adopted the \$6.00 boiling price and prices ten per cent. above Pittsburgh for finishing mills, the differential which it had attempted to gain in 1881.² In both districts the attempt to sustain prices above Pittsburgh met with failure. The organization was weak in the third district and failed from the outset to enforce the scale generally.³ In the fifth district only four mills signed the district scale and finally, with the consent of the national union, the district returned to work for practically Pittsburgh prices.⁴

In the scale adopted by the 1884 convention there was again uniformity except for the twenty-five cents higher price for boiling in the second district.⁵ This scale was put into operation generally except in the third and fifth districts, these districts being badly demoralized.⁶ The 1885 scale convention agreed to ask for the existing prices, if they could be obtained, and to make the price of boiling uniform west of the Alleghany Mountains.⁷ This made the scale

¹ Proceedings, 1883, pp. 1082, 1197-99. This had been the boiling price sanctioned late in 1882 for 1882-3 but it had been difficult to enforce it.

² Ibid., p. 1179.

³ Ibid., pp. 1082, 1179. The district was then very much disorganized. During the fall and winter efforts were made to reorganize the lodges in the vicinity of Cincinnati, and in June, 1884, a meeting was held with the manufacturers and an agreement made to observe Pittsburgh prices. The manufacturers objected to the words "Third District" appearing in the scale and "Pittsburgh Scale" was substituted with the following clause added: "We agree to abide by the Pittsburgh Scale of Prices as per agreement of November 7th, 1882."

⁴ Proceedings, 1884, pp. 1346-48, 1420-23. An attempt was made to secure an agreement with the manufacturers to pay the Wheeling price of \$5.75 for boiling when it was seen that the \$6.00 rate could not be enforced, but this could not be obtained.

⁵ Scales, 1884-5; Proceedings, 1884, pp. 1333-5. The manufacturers in 1883 refused to go into conference with district committees for the first, second, fourth, and sixth districts and demanded that a general committee deal with them. The general committee of the scale convention agreed to do that (Proceedings, 1883, p. 1078).

⁶ Proceedings, 1885, pp. 1560, 1590, 1633, 1639.

⁷ Ibid., p. 1551. In January, 1885, the president sent out a circular urging the advisability of accepting a reduction on account of con-

practically uniform. After a failure of the union to arrive at an agreement with the manufacturers as a whole, the Pittsburgh manufacturers accepted the scale for their district, and the scale so accepted was sent by the union to all the sub-lodges in the other districts as the union scale for all districts. Any mill in any other district might start up under this scale.¹ A uniform scale was thus enforced west of the Alleghany Mountains in the iron and iron and steel finishing mills in 1885.² The scale was then uniform practically for as many branches and for as much of the union jurisdiction as was ever covered by a single scale.³ This uniformity was, however, obviously brought about by the refusal of manufacturers in one district to pay more than those in another and not by the union's bringing up the lower-priced districts to the level of the higher in order to prevent reductions in the latter.

A uniform scale was never secured for the men in the steel converting and steel-rail rolling mills. After the attempt to establish district scales for them had failed,⁴ each

ditions then prevailing. In this he urged the second district to give up its twenty-five cents above Pittsburgh in the boiling price in order to make that uniform (*Ibid.*, p. 1579).

¹ Proceedings, 1885, pp. 1554, 1557-1558.

² A change was made after 1885 in the method of determining the scale on the union side. On the recommendation of the president of the union, the 1885 convention did away with the scale convention and thereafter the national convention dealt with the scale directly. The convention, which had up to this time met in August, thereafter met in June, as the scale year began July first. The negotiations with the manufacturers were carried on by conferees for each division appointed at the convention (Proceedings, 1885, pp. 1581, 1657-59, 1690; Proceedings, 1886, p. 1825; Proceedings, 1887, p. 1969).

³ Many attempts were made to maintain a scale for the Eastern district, but they were not very successful. In some years such a scale was adopted for most of the branches included in the Western scale (*Vulcan Record*, I, no. 14 (1874), p. 13; *Eastern Scale of Prices*, for year ending June 30, 1891). In other years a scale was adopted for Philadelphia and vicinity (Proceedings, 1880, Appendix; Proceedings, 1881, Appendix; Proceedings, 1887, p. 1951; Proceedings, 1889, pp. 2611, 2763; *Philadelphia Scale of Prices*, for the year ending June 30, 1890; Proceedings, 1891, pp. 3312, 3560). But in 1889 when there was a Philadelphia scale, only three mills outside of Philadelphia paid the same prices (Proceedings, 1889, p. 2763). An attempt in 1903-4 to formulate an Eastern scale failed because of the variations in prices paid (Proceedings, 1904, pp. 7070, 7081-2).

⁴ See above p. 131, note.

steel plant continued to have its own scale. These differed with equipment and other important conditions.¹ Another effort for a uniform scale was made in 1887. In that year a special steel workers' convention formulated a scale, but only as a suggestion toward uniformity.² The steel workers' wage committee reported to the convention in 1888 that it would not be wise to attempt to enforce a uniform scale at that time. This recommendation was followed, and separate scales for the various plants recommended by this committee were adopted by the convention.³ This practice of adopting scales for the several mills individually on the recommendation of a steel workers' wage committee was followed by subsequent conventions.⁴ The Association lost ground in the steel mills after the Homestead strike in 1892, and by the secession of the steel finishers, who withdrew to form the National Union of Iron and Steel Workers of the United States.⁵ In 1900 the steel mills were but little organized,⁶ and the attempt to gain ground failed in the strike of 1901.

Since 1885 the policy of the Association has been to maintain uniform rates west of the mountains where work and conditions are similar. If reductions are given to any manufacturers the same reductions are given to all other manufacturers working under the scale.⁷ In 1894, after futile conferences with the associated manufacturers, a few manu-

¹ Proceedings, 1886, p. 1825; Proceedings, 1887, pp. 1922-4, 1946-7.

² Proceedings, 1886, p. 1825; Proceedings, 1887, pp. 1946-7, 1922-4.

³ Proceedings, 1887, pp. 2145-7, 2337; Programme of Business of Thirteenth Session, 1888, p. 50.

⁴ Proceedings, 1888, pp. 2221, 2275.

⁵ Proceedings, 1889, pp. 2601-3; Proceedings, 1890, pp. 2937, 2940.

⁶ Proceedings, 1893, pp. 4282, 4324, 4326.

⁷ Proceedings, 1899, pp. 5664-6; Proceedings, 1900, p. 5909.

⁷ Since 1893 the following clause has appeared in the "Memorandum of Agreement": "Whenever deviations from the Western Iron Scale signed for by any Manufacturer and the Amalgamated Association are made, and evidence is produced to prove it the Amalgamated Association and Manufacturers agree to make every effort to correct the same, provided the Trains and Furnaces are similar, but if the deviations continue to be tolerated by the Amalgamated Association, all other mills shall receive the same. All Manufacturers and workmen governed by this scale hereby agree not to make any deviations from the scale agreed to" (Proceedings, 1893, p. 4246).

facturers signed a scale and this was issued as the Association scale. In September a scale reduced in some particulars was signed with another group of manufacturers and these reductions were made in the scale for all, including those who had signed before.¹ The Amalgamated Association has lost many members since 1901, but it still maintains its old policy as to uniform scales west of the mountains. Its practice is to hold two conferences on the puddling and finishing scales after they have been adopted by the convention, one with a single company and another with an association of iron manufacturers, and the lowest items agreed on with either become part of the uniform scale.² The convention scales for the sheet and tin division are also taken up in conference, usually with one company,³ the most important producer; but the other producers may have a separate conference if they wish. The same rule holds as in the iron conferences—a reduction given to one is given to all.

Not all the union mills have their rates provided in the national scale. A number of mills and departments of mills have from time to time been given separate special scales because of variations from the regular types.⁴ The few mills in the East controlled by the union also have separate scales. Finally, there are some workers in mills working under the uniform scale who do not have their rates specifically provided in the scale. Thus some regular hands particularly on muck mills and finishing mills are left out of the scale. The officials of the national union have often tried to secure uniform scales for these workers but have failed because of non-uniformity in the amount of work they are called upon to do.⁵ Many of these workers are

¹ Proceedings, 1894, pp. 4533-7; Proceedings, 1895, p. 4800.

² These conferences are held with the Republic Iron and Steel Company and the Western Bar Iron Association (Amalgamated Journal, June 21, 1906; June 13, 20, July 4, 11, 18, August 15, 1907; June 26, July 16, 1908).

³ The American Tin Plate Company (Ibid., June 29, July 6, 1905; June 21, 28, 1906; June 20, 27, 1907; June 25, July 2, 1908).

⁴ See, for instance, Proceedings, 1889, pp. 2603, 2786; Proceedings, 1904, pp. 7018-20, 7024, 7044, 7048, 7351; Proceedings, 1905, pp. 7374, 7389.

⁵ Proceedings, 1882, p. 802; Proceedings, 1883, p. 1249; Proceedings, 1888, pp. 2289-90; Proceedings, 1890, p. 3031.

union men and are employed by the roller; these may complain to their local lodges if they think their wages should be raised. A local union may also take up with the employer the wage of any of its members not provided for in the scale. The wages of these men must go up and down with the sliding scale.¹

As pointed out above, most of the branches of the Flint Glass Workers' Union came to adopt national price lists after maintaining sectional lists. The Prescription branch, which obtained a Western list in 1881,² had a national uniform list in 1883.³ In the same year committees were appointed from each of the other branches to consider revision of these various lists with a view to greater uniformity.⁴ The feeling in favor of single uniform lists was strong, but diversities in methods, in working conditions and in bargaining power kept the departments from attempting to enforce uniform lists in that year, although greater uniformity was introduced in the lists, particularly in the West.⁵

In 1885 an attempt was made to secure uniform lists in the various departments; but it was on the whole unsuccessful. The Pressed Ware list was refused by both the manufacturers of the Ohio Valley and those of Pittsburgh, the situation having been complicated by a struggle by the local unions of the Ohio Valley against the substitution of piece work for the limited turn system. A compromise list was accepted in the Ohio Valley after a protracted strike, and Pittsburgh, badly disorganized, was excused from the operation of the list. In the Shade department several of the Eastern local unions did not attempt to enforce the list, and separate lists were finally put in force in the East. The

¹ There are some workmen who are not provided for in the scale largely because they are admitted to membership by only a few local unions.

² Minutes, 1880, p. 50; Minutes, 1881, p. 58.

³ Proceedings, 1883, p. 54; Proceedings, 1884, p. 86. This is the first continuous national uniform list known to the writer.

⁴ Proceedings, 1883, pp. 34, 40-41.

⁵ Ibid., pp. 55-58.

Caster Place list was modified for certain manufacturers, and the Iron Mold list was withdrawn. The Paste Mold list was successfully enforced, and apparently the Chimney list also.¹

The strike brought on by the attempt to enforce uniformity in 1885, and the failure of the movement in the branches in which there had been greatest diversity, led the union officers to urge for the future a more cautious advance.² The president advised that the lists be made uniform gradually by starting with a list of the more staple articles and adding to them each year until the rates should be standard for all wares. But uniformity was attained sooner than had been expected. In 1887, at the request of the manufacturers, a committee was appointed from the Prescription branch to confer with a committee appointed by the manufacturers.³ Trouble arose in the attempt to establish the lists of the other departments and conferences were held with the manufacturers in these also. As a result of these conferences, which were interrupted several times by strikes, uniform lists were agreed upon in the spring of 1888 for the Pressed Ware and Iron Mold and Caster Place departments and a considerable advance made toward uniformity in the Shade department.⁴ By these settlements the union secured uniform lists for all the important original departments in the trade except the Shade department, and even here the same end was attained by 1891.⁵

The remaining departments of the Flint Glass Workers have also, in the main, secured national lists. The 1887-88 list of the Chimney department was a uniform list.⁶

¹ For the history of these attempts, see *Proceedings*, 1886, pp. 9-23, 28, 30, 31, 38, 39, 65, 83, 90-92.

² *Proceedings*, 1886, p. 28.

³ *Proceedings*, 1887, p. 91.

⁴ *Proceedings*, 1888, pp. 29-31, 57, 123.

⁵ *Ibid.*, pp. 31, 39, 116; *Proceedings*, 1891, pp. 124-126; *Proceedings*, 1892, pp. 31, 195.

⁶ *Proceedings*, 1888, pp. 26, 88-89. There are still in the Chimney department an "Eastern" and a "Western" list, but these are not separate lists for the same work applying only in the East and in the West respectively. There are two methods or "styles" of working, two ways of organizing the "shop" or team for making

The Stopperers succeeded in 1891 in enforcing a uniform list.¹ The Cutters and the Engravers were admitted to the Flint Glass Workers' Union in 1886, and the Mold Makers in 1885.² The Cutters then had separate lists in each shop in which the piece system was worked.³ This department has never had a uniform piece list; but it has a national minimum rate for both time and piece workers.⁴ The Engravers adopted a minimum list in the 1887 convention.⁵ The Electric Bulb department and the Punch Tumbler and Stem Ware department are outgrowths of the Past Mold department. Both these departments have uniform lists. The Machine Jar and Bottle Makers' department, an offshoot from the Pressed Ware department, also has its uniform national price list. The Lamp Workers' department, instituted in 1891 when these workers joined the Flint Glass Workers' Union, has no uniform list. It was never strong and is now almost defunct. All the departments, therefore, now have uniform lists except the cutters, who work under the time system largely, and the Mold Makers who work for time wages exclusively.

The officers of the union stated to the convention in 1888 that uniformity could not have been secured so early in the Pressed Ware and Iron Mold departments but for the coöperation of the manufacturers.⁶ Yet uniformity was attained only after several years of earnest striving by the national union. The seriousness of the union's intention to establish uniform lists is evidenced by the attempt to enforce uniformity in 1885. It was suggested during the

chimneys, known as the Eastern and the Western styles. Each list applies uniformly over the country wherever its method is worked. There is but little difference in the cost per dozen between the two methods. There is a similar difference between Eastern and Western styles of working in the Electric Bulb department (Proceedings, 1891, Report of Electric Incandescent Bulb Committee).

¹ Proceedings, 1888, pp. 25, 35, 48, 98, 102-3; Proceedings, 1891, p. 109.

² Proceedings, 1886, pp. 69, 71, 77.

³ Proceedings, 1887, p. 20; Proceedings, 1888, p. 47.

⁴ Proceedings, 1888, pp. 102-104.

⁵ Proceedings, 1887, p. 81; Proceedings, 1888, pp. 35, 93-6.

⁶ Proceedings, 1888, pp. 29-30, 57.

conferences in 1887-88, after two months had been spent without success in an attempt to formulate a satisfactory list for the Pressed Ware department, that a settlement could more easily be effected on the basis of the existing sectional lists; but the union refused to yield. The president of the union in commenting on this refusal said, "Too much time and money had been spent in this and in previous years to try to gain uniformity to abandon the pursuit of it now when the object seemed to be within our grasp."

Two of the departments, however, had previously shown great reluctance to grant a uniform reduction when forced to concede it in one locality. The Pressed Ware department in 1885 failed to enforce a list in the Pittsburgh district which had been adopted for both Pittsburgh and the Ohio Valley. The union fought for a long time in the latter section before it accepted as a compromise a reduction from its original list which made the prices paid in Pittsburgh the basis of the Ohio Valley prices.¹ Another and very striking case was the attempt of the Prescription department in the same year to prevent a reduction in the Pittsburgh district from being made general. In 1885 the union had to concede ten per cent. "off" the prescription list in and around Pittsburgh. There was an understanding that this reduction should be kept secret, but by the end of two months the news had leaked out in the East and in St. Louis, and the manufacturers in those districts demanded that the same reduction should be given them. The Eastern manufacturers said, to quote one of the union officers, "You have made the list universal, and if the Western manufacturers have this advantage you are doing yourselves and us an injustice." A special convention of the Prescription branches was held in January at Pittsburgh and it was voted to give the reduction to all who had not already received it.²

¹ Proceedings, 1886, pp. 11-17.

² Ibid., p. 40. In the next convention this department refrained from adopting a suggestion that a separate list be adopted for the East in order to regain the previous prices. See above, p. 133, note.

The Window Glass Workers did not attain a uniform scale throughout the union jurisdiction until 1901. As has been noted, from a few years after its organization in 1879 the union had a uniform scale west of the mountains, and Eastern and Northern district scales which followed the Western as a guide and basis.¹ The Eastern and Northern scales were regarded as concessions from the dominant or regular scale.² There was sentiment in the union very early in favor of removing the differences between the districts if possible.³ The Eastern and Northern districts, however, seem to have been unable to force their wages up to the Western level. The wage committees of the various districts sometimes acted together on common affairs, particularly in the matter of working rules. For instance, in 1888 the Western and Northern committees joined in making an agreement with the manufacturers for the regulation of production for the blast of 1888-1889.⁴ In 1899 the same scale was issued in all the districts, but with provision for seven and a half per cent. discount from the rates in the Eastern and Northern districts. In 1900 the Eastern and Northern districts had the same discount.⁵

When the scale for 1901-2 was to be signed, the union glass workers were divided into two rival organizations. One of these signed a scale for the blast of 1901-2 uniform in all districts.⁶ This practice has since been followed. In 1903 the new organization and the old Knights of Labor Assembly 300, signed a "joint scale" for the blast of 1903-4 which was uniform for all parts of the United States. It was specifically provided that no discounts were to be

¹ See above, p. 131.

² The Western scale of the Window Glass Workers stood in the eyes of the union in much the same relation to the other two scales as did the Western scale of the Iron, Steel and Tin Workers to the other scales.

³ Proceedings, 1884, pp. 28-29.

⁴ Proceedings, 1889, p. 8.

⁵ Wage Scale and Working Rules, for Blast of 1899-1900; *Ibid.*, for Blast of 1900-1.

⁶ Circular to members of Knights of Labor Assembly 300, signed by J. L. Denny, President, Pittsburgh, August 3, 1901.

granted to the manufacturers in the Eastern or Northern districts.

A uniform national scale for glass bottle blowing, aside from that for the Prescription division of the Flint Glass Workers, was not secured until 1890. Its attainment was undoubtedly retarded by the fact that prior to 1890 there were two unions of green-glass bottle blowers, one an Eastern and the other a Western union. The attainment of the uniform list is practically the story of the amalgamation of the Eastern and Western unions. There is reason to believe that there was a union in the glass bottle blowing trade in the East in 1842 which was considerably more than a local organization. The first strong organization in the East after the Civil War seems to have been the Druggists' Ware Glass Blowers' League of America, which was probably organized in 1866. This union established a uniform price list in the East; at one time there had been three district lists, though these were not printed and so were not followed exactly. The union began to hold conferences with the employers for the establishment of the Eastern list about 1880.¹ In July, 1886, the Eastern union dissolved and reorganized as District Assembly No. 149, of the Knights of Labor. A part of the membership, dissatisfied with this step and with the apprenticeship policy of the Assembly, formed a rival organization. In 1889, however, this "League" was absorbed by District Assembly No. 149.² There was little or no organization of glass bottle blowers in the West until after the Civil War. The united Western organization was well established by 1880.³ This "Western Green League" also became a District Assembly of the Knights of Labor in 1886.⁴

¹ For the facts concerning the early history of organization in the glass bottle blowing trade, the writer is indebted to Secretary Launer of the Glass Bottle Blowers' Association.

² Proceedings of District Assembly, No. 149, Knights of Labor, 1887, pp. 7-18; Proceedings, 1889, pp. 11-16.

³ Proceedings of the Green Glass Workers' Association, 1894, pp. 18, 26.

⁴ Proceedings of American Flint Glass Workers' Union, 1886, p. 74.

The relations of the Eastern green-glass bottle blowers' organization, District Assembly No. 149, Knights of Labor, with the Western union, District Assembly No. 143, Knights of Labor, were very friendly. The two often met in joint session during their annual conventions, but each made up its wage list separately.¹ From 1887 on the sentiment for a union of the Eastern and Western District Assemblies was strong; but difficulties of detail stood in the way.² The Eastern Assembly was particularly anxious for consolidation, as it hoped thereby to secure a uniform list of prices and so put an end to the constant complaints of Eastern manufacturers concerning the lower Western prices.³ The absorption in 1889 by District Assembly No. 149 of the rival Eastern organization which had broken off from it three years before hastened the consolidation of the Eastern and Western unions, which actually took place in 1890.⁴ The new union was known as the Green Glass Workers' Association. One of the provisions of the consolidation insisted on by the Eastern union was a uniform scale of prices for the united body.⁵ In 1895 the name of the union was changed to the Glass Bottle Blowers' Association. With minor exceptions⁶ its lists are now uniform.

After the consolidation of the Eastern and Western

¹ Proceedings, District Assembly, No. 149, 1887, pp. 7, 43; Proceedings, 1888, pp. 57-8; Proceedings, 1889, pp. 43, 66, 69, 70.

² Proceedings, 1887, p. 45; Proceedings, 1888, p. 26; Proceedings, 1889, pp. 25-32, 43, 51, 67.

³ Proceedings, 1889, p. 23. Contrary to the situation in other divisions of the glass industry the glass bottle unions were able in the late eighties to secure higher wages in the East than in the West (Proceedings, American Flint Glass Workers' Union, 1886, pp. 24, 33-36, 41; Proceedings, 1887, pp. 25, 39).

⁴ That the actual consolidation was effected at that particular time was due also largely to the services rendered by President Arrington of the Western union to the Eastern organization during a severe strike and lockout in 1889-90. President Arrington came East and took charge of the struggle for the Eastern union at the request of its executive board. The executive boards of the two unions then effected a consolidation which was later ratified by their respective organizations.

⁵ Proceedings, 1889, pp. 67, 79.

⁶ There is, for instance, no uniform list for side-lever press ware (Proceedings, 1907, p. 212).

green-glass bottle blowers' unions the Flint Glass Workers, one of whose departments—the Prescription branch—was made up of bottle blowers, proposed to the Green Glass Workers that the latter should amalgamate with them. The Green Glass Workers were unwilling to consider amalgamation at that time, but were willing to confer as to price lists on ware made by both associations.¹ As the quantity of flint bottles blown from continuous tanks in what had been known as green-glass houses increased, an increasing amount of the ware formerly made in covered pots in flint houses under the price list of the Prescription branch of the Flints passed under the jurisdiction of the Green Glass Workers. The Flints consequently became more anxious that the Green Glass Workers should enforce the Flint prescription list on all bottles made of flint glass in the houses for which they made the wage agreements. The Green Glass Workers preferred, however, to follow their own list on this ware,² but were willing to consult with the Prescription branch of the Flints each year before making up their scale. In 1895 they instructed the conference committee to confer with the Prescription branch conference committee before meeting the manufacturers; the feeling was expressed in the convention that the manufacturers got the better of both committees by treating with each separately.³

In 1897 a proposed plan of amalgamation was defeated by the Glass Bottle Blowers' Association, as the Green Glass Workers' Union was now called. The two committees had discussed a joint price list, but had failed to agree. The Flint Prescription branch conference committee then suggested that their branch of the Flints might join the Glass Bottle Blowers, but the latter association was unwilling at that time to take them in against the wishes of the Flints.⁴ But from 1897 differences between the two associations as to the work over which each should have jurisdiction and

¹ Proceedings, Green Glass Workers' Association, 1892, p. 110.

² Proceedings, 1894, pp. 167-8; Proceedings, 1896, p. 66.

³ Proceedings, 1895, pp. 29-31; Proceedings, 1896, pp. 12-14.

⁴ Proceedings, Glass Bottle Blowers' Association, 1897, pp. 24, 26.

over the control of union men in factories in which work was done which was claimed by both associations, constantly increased. In 1901 the majority of the members of the Prescription branch withdrew from the Flints and were received into the Glass Bottle Blowers' Association, against the protest of the former union.¹ Practically all the union "hand" bottle blowers are now members of the Bottle Blowers' Association, so that there is practically but one union list for such ware.²

The Potters have but recently obtained national uniform scales. As in the case of the Glass Bottle Blowers, the attainment of uniform lists was retarded by the existence for years of an Eastern and a Western union. The manufacturers forced a reduction in 1894 and the president of the Western union—the National Brotherhood of Operative Potters—declared that the acceptance of the reduction by the Eastern or Trenton potters had forced the Western or East Liverpool men to submit to the same reduction.³ In 1895 the Western union attempted unsuccessfully to secure a uniform price list.⁴ The union went on with its campaign and in 1897 persuaded the manufacturers to agree to a conference for drawing up a uniform list.⁵ But the Eastern union was not then ready to accept a price list based on an average of Eastern and Western prices, since they feared that it would involve reductions for them. The Western union then tried to secure a uniform list for the West, but

¹ Proceedings, 1901, pp. 89-90; Proceedings, 1902, p. 17.

² See above, pp. 37, 42-43. There is a small amount of hand-blown ware other than bottles for which both unions now set prices. The Flint Glass Workers as well as the Glass Bottle Blowers have a price list for machine-blown jars and bottles.

³ Proceedings of the National Brotherhood of Operative Potters, 1894, p. 6.

⁴ Proceedings, 1895, pp. 37-38. The president of the Western union at this time deplored the inequalities then existing, terming it one of the greatest evils of the pottery trade. There was a traditional scale of prices in the trade known as "the 1885 list," but the manufacturers did not follow it and the local unions were not strong enough to force them to. There were still many non-union workers in East Liverpool. The Trenton Potters also refused to coöperate (Proceedings, 1896).

⁵ Proceedings, 1897.

the manufacturers of the West would not accept it. The Eastern union also failed to secure an Eastern list.¹

After the failure in 1898 to secure a uniform list or even sectional lists the Eastern union—the Potters' National Union of America—voted for consolidation with the Brotherhood, and their local unions were absorbed into the latter organization.² In December, 1899, the Sanitary Potters, who had seceded from the Brotherhood in 1895, again affiliated themselves.³ The united organization kept on working for uniformity by collecting information as to prices and trying to win the coöperation of the manufacturers.⁴ In 1900 a uniform list was agreed upon for work on general ware, that is, ware other than sanitary, except for decorating, kiln drawing, and printing.⁵ Some local unions in Trenton, however, refused to accept the new list and continued to work under the old. This led the Eastern manufacturers to refuse to go on working under the "uniform" list.⁶ The failure to enforce the scale in the East made it difficult in turn to hold the Western manufacturers to the scale prices and conditions.⁷ The officers kept working to secure real uniformity, and after much difficulty succeeded in 1904 in enforcing the list in the East and so making it uniform.⁸ In 1903 the union's persistent attempts to secure a uniform list in the sanitary branch of the trade also met with success. In that year a uniform list for the most im-

¹ Proceedings, 1898, pp. 5, 6.

² Ibid., p. 6.

³ Proceedings, 1900, p. 8.

⁴ Proceedings, 1899, pp. 9, 17. The president of the union in his address to the 1899 convention declared that when union prices were non-uniform the tendency was toward the lowest prices (Proceedings, pp. 9, 17, 43).

⁵ Proceedings, 1900, p. 8.

⁶ Proceedings, 1901, pp. 7, 81. The president of the union, replying in 1902 to the arguments advanced by some members in the East that there should be an Eastern and a Western list, expressed the opinion that the best policy was one list of prices for work done according to regular methods and under ordinary conditions, regardless of section, with extra prices where facilities were not so good, in order to enable the men to earn the ordinary wage (Proceedings, 1902, p. 10).

⁷ Proceedings, 1904, pp. 9, 11.

⁸ Officers' Reports to the 1905 Convention, p. 5.

portant departments of the sanitary branch was accepted by the manufacturers,¹ and in 1907 the agreements were renewed in both branches for uniform lists.²

The Garment Workers' national minimum bill for the shirt and overall branch and the Hatters' national minimum bill for stiff hats have both been established in recent years. The 1897 convention of the Garment Workers instructed its executive board to take the necessary steps to bring about a uniform scale in the overall factories.³ The 1898 convention took similar action and the executive board, following its instructions, secured price lists of all factories using the union label. It then asked all factories paying less than the average to raise their prices to the average level or to give up the label.⁴ In the 1899 convention a minimum price list for overalls and working clothing was adopted.⁵ The scale was enforced by the union's action on each factory separately until 1905. In August of that year the representatives of the union met a committee of manufacturers for the first time, at the request of the latter, to confer on the price list.⁶ At the present time the scale is first considered in joint conference and thereafter ratified by the convention. The national scale is a minimum, not a uniform scale. Certain manufacturers are required to pay higher prices than those in the scale because of inferior equipment or facilities, and some local unions which had higher scales before the minimum was put into effect, still maintain rates higher than the minimum.⁷

The Hatters' minimum wage list is the result of several

¹ Proceedings, 1904, p. 11; President's Report to the 1905 Convention.

² President's Report to the 1908 Convention. A number of members, however, are engaged in work not covered by the uniform scales.

³ Garment Worker, January, 1898.

⁴ Ibid., December, 1898.

⁵ Ibid., November, 1899; February, 1900.

⁶ Weekly Bulletin of the Clothing Trades, February 3, June 30, August 4, 1905; Proceedings, 1906; Proceedings, 1908, pp. 14-17.

⁷ Garment Worker, November, 1901; Weekly Bulletin, February 3, 1905; August 16, 1907; Proceedings, 1904; Proceedings, 1908, p. 115.

years of vigorous agitation for a uniform or minimum bill in order to prevent competition between districts. In January, 1895, a resolution was reported in the convention reciting that reductions had been caused by differences in prices among the districts and emphasizing the need of a uniform bill to prevent them.¹ No effective move was made in that direction, however, until 1898. In that year there were serious complaints that employers in the higher-priced districts were using the lower prices in some districts to force reductions,² and a uniform bill was urged as a remedy. A committee was appointed by the executive board to devise plans for equalization,³ and the matter was considered at every meeting of the board of directors for two years.⁴ In 1899 the committee presented a minimum list for stiff hats, but the board of directors were not ready to adopt it and referred the matter to the convention.⁵

A proposal to adopt a uniform bill for soft and stiff hats was made in the convention of 1900 and was discussed at great length and decisively defeated.⁶ But at the meeting of the board of directors in April, 1900, charges were made that two local unions were maintaining price lists so low as to compete unfairly with the other districts. After an investigation of these cases a committee was appointed to consider the establishment of a minimum or "bottom" bill. Following the report of this committee, the board devised a minimum list for machine-sizing and finishing and adopted a rule that no member should work for less than three dollars a day.⁷ This action was ratified by the local unions by a referendum vote.⁸

¹ Journal of the United Hatters, August, 1898.

² The secretary of the Danbury local union, however, asserted that the low prices in that district were for cheap work which was not in competition with "fair" shops but with non-union or "foul" shops (*Ibid.*, March, 1899).

³ *Ibid.*, August, pp. 3-6, September, p. 4, 1898; January, February, March, September, 1899.

⁴ *Ibid.*, December, 1899, p. 4.

⁵ *Ibid.*, November, p. 6, December, p. 3, 1899; April, 1900, p. 4.

⁶ Proceedings, 1900, pp. 342-344.

⁷ Journal of the United Hatters, May, 1901.

⁸ *Ibid.*, August, 1901.

Complaints of losing work to other districts where lower prices prevailed continued and the agitation for a thorough-going minimum list of piece prices was kept up.¹ The matter was taken up again by the board of directors in March, 1902, and a minimum bill for sizing and finishing stiff hats was adopted which was afterwards ratified by an overwhelming vote of the members.² The national bill for stiff hats is in fact a minimum bill. Its prices are intended to apply only where the conditions are most favorable for production. Where the equipment and other conditions are less favorable higher prices are to be adopted locally and enforced. The manufacturers have opposed the recognition of the minimum bill in framing local bills, on the ground that differences in methods and improvements make earning power vary under the bill,³ but the union has consistently enforced the bill.

Encouraged by the success of the minimum bill for stiff hats, the advocates of uniformity brought forward in the 1903 convention a proposal for a uniform bill in all branches. Their proposal was referred to the board of directors and to the general executive board, and no further action was taken upon it.⁴ In 1907 resolutions were again offered favoring a uniform bill for soft hats, and a committee of the convention having the matter in charge reported a bill. This was referred to the incoming executive board,⁵ but has not yet been put in force by the union. The many differences in working conditions and in manufacturing processes have proved for the present a sufficient obstacle.

The chief principle discernible in the policy of the piece-

¹ Journal of the United Hatters, May, September, 1901.

² Ibid., April, June, July, p. 17, August, p. 17, 1902. The president of the union reported to the 1903 convention that the increase in wages resulting from the adoption of this bill had been "from 33½ to 75 per cent. over the old prices" (Proceedings, 1903, p. 21).

³ Proceedings, 1907, pp. 43, 49, 109. Proceedings of Board of Directors, July 16, 29, 30, 1907; Proceedings of Board of Directors, May 11-14, June 18, 1908.

⁴ Proceedings, 1903, pp. 46, 75.

⁵ Proceedings, 1907, pp. 55, 64, 116-119.

working unions as to the area of the rate is to make the real rate of remuneration uniform over as much as possible of the union jurisdiction and more particularly over such parts as lie within the same competitive district. It is evident that it is not so much one standard rate over the whole competitive area or over the whole union jurisdiction that is aimed at as an equal rate of remuneration, that is, uniformity of pay in proportion to effort and skill expended. This aim is naturally sought through the establishment of uniform lists where these seem feasible. But where there are numerous differences between shops within the area of desired uniformity, in the styles or patterns of the finished article, in the methods of subdividing the work at various stages in the processes of manufacture, or in the equipment or other physical conditions affecting output, the union instead of attempting to enforce a single uniform list will generally maintain many lists of standard prices of limited application and attempt to keep the earning capacity under all equal. Finally, where there is departure in particular shops from the normal patterns or conditions the regular price list is not applied. Uniform rates for uniform work and proportional variations in rates to meet variations in form, in what is to be done for the rate, and in physical conditions affecting production is the general union aim.

II

AREA OF TIME RATES

The usual area of the time rate is a locality; in a few cases, however, time rates are standard for districts or sections, where these districts are well-defined competitive districts or units of negotiation or both. Some unions also adopt minimum rates for states, or for the country as a whole; but these rates are in most cases not intended as the minimum rate in each locality but are maintained as supplements to and in support of the actual rates.

Local rates.—The extent of application of "local" rates is usually the jurisdiction of the local union. This is ordi-

narily a city or town, and if it be a large city, the suburbs as well.¹ Some unions which cannot expect to have permanent local unions in small places because there is not constant work of sufficient amount, extend the jurisdiction of their local unions beyond the limits of a single city. Among the Lathers² and the Slate and Tile Roofers,³ for instance, the jurisdiction of each local union reaches half way to the nearest city in which there is another local union. Thus no territory is outside the jurisdiction of some local union. The Steam Fitters also give wide jurisdiction to their local unions;⁴ all of Maryland, for instance, is within the jurisdiction of the Baltimore local union. The Structural Iron Workers' local jurisdictions are so extensive that there is not much territory in the East not under the jurisdiction of some local union.⁵ The Stone Cutters allow their local unions to extend their jurisdiction twenty-five miles in any direction,⁶ and many local unions have taken advantage of this to extend their wage scales over work in neighboring places. The Machinists' and the Molders' local unions, too, have wide jurisdictions, and extend their control over many plants located outside the boundaries of a large city but within its industrial influence.

¹ Most of the large unions, like the Carpenters and Bricklayers, have in many cities several local unions of men doing the same grade of work. The members are thus divided into separate local unions for convenience in meeting and in administration. It is usual in such cases for all the local unions to have the same rate. Greater New York seems, however, to offer too diverse conditions for uniform rates for some of the building trades. The Carpenters' rate is fifty cents higher in Manhattan than in the Bronx or Brooklyn and fifty cents higher in these boroughs than in Queens and Richmond. The Painters' rate for Manhattan and the Bronx is fifty cents higher than for the other boroughs. The Bricklayers' rate is lower in Richmond than in the rest of greater New York. In 1905 the national officers upheld the Richmond local union when proceeded against by the New York executive board for refusing to enforce the latter's scale in Richmond (*Annual Reports*, 1905, p. 224).

² Constitution, 1909, Art. I, sec. 4.

³ Constitution, 1906, Art. II, sec. 2.

⁴ Constitution, 1908, sec. 28.

⁵ Constitution, 1909, sec. 65.

⁶ Constitution, 1892. By-Laws, Art. XII, sec. 12; Constitution, 1909, Art. VIII, sec. 2.

It is not usual for a local union to maintain more than one standard time rate for the same grade of work or for the same class of workmen in the same locality. A rate which applies to a grade of work or class of workmen in one shop in a locality applies, as a rule, in all. There are, however, a few exceptions to this rule. Unions having members in general contracting shops and in railroad shops in the same locality, as the Machinists, the Blacksmiths, and the Boilermakers, often have two sets of rates in force, one for the contract shops, the other for the railroad shop or shops. The rates for the latter are arranged separately with each railroad, and these shops are for rate-making purposes not considered as in the same group with the general contracting shops. The rates the unions may secure for the railroad shops are the rates paid by the road in all its shops; the railroad, not the locality, is the unit of collective settlement.¹ The railroad rate often differs from the local rate; in the West it is likely to be higher, in the East lower. If there are shops of more than one road in the same town the rate for each is fixed separately, but it is usually the same in amount; important differences are infrequent and are due to exceptional conditions in the railroad shops.

Sometimes a local union agrees with different shops in the same locality for different minimum rates. This is generally because the union is moving for a higher minimum throughout the locality, and has only succeeded in part.²

¹ Other unions whose members are employed to some extent in railroad shops do not make identical agreements for their men in all the shops of a railroad, but leave their rates to local adjustment. Even in these cases the rates for railroad and for other work are not infrequently different. The Painters, for instance, often have different rates for the railroad shops. The work is more specialized than general work and the rates are usually graded. The Molders, on the other hand, usually hold their men in the railroad shops to the local rate, but there are comparatively few molders working under the time system in railroad shops.

² The minimum, however, is regarded by the Machinists merely as the lowest rate the local union will accept in an agreement with a local employer. Higher minimum rates are frequently maintained for particular firms, usually because of peculiar conditions

Many unions, however, when establishing a higher rate refuse to allow their men to remain even temporarily in some shops at the lower rate. Occasionally, also, local unions in the garment and shoe trades when making separate agreements in each shop for piece prices in branches which are predominantly piece-working, insert minimum rates for the time workers which are not uniform in all shops. This lack of uniformity is also intended to be but temporary and is due to weakness or to peculiar circumstances. The general rule among the local unions with a minority of time workers, as, for instance, some of the local unions of the United Garment Workers, the Metal Polishers, and the Boot and Shoe Workers, is to maintain uniform time rates for the locality even though the piece rates be shop rates.

Sectional rates.—There are a few cases in which time rates fixed for districts or sections embracing many localities are the rates actually ruling as standard in each locality. The most important instances are those of the Seamen's and the Longshoremen's rates on the Great Lakes and the Miners' rates for "inside men" in the central competitive field. The Lake Seamen's union maintains uniform scales in all Great Lakes ports for seamen, marine firemen, and marine cooks and stewards.¹ For several years prior to 1908 these rates were secured by agreements with the employers' associations, but in 1908 the agreements were not

removing them from competition with the general contracting shops. Agreements are often made with breweries, for instance, calling for a higher rate than that for the contracting shops. In Baltimore a distinctly higher minimum rate is obtained from a company making caps for beer bottles, though apparently no greater efficiency on the part of the men is required. This practice has probably grown out of their dealings for separate minimum rates with the railroads.

¹ The Seamen have some port rates on the Lakes for members employed on barges, towboats, and other such vessels, belonging to one port rather than moving from port to port. On the Atlantic coast the seamen have port rates only, but these are as a matter of fact uniform. The firemen's port rates on the Atlantic coast are not uniform, and the cooks and stewards in 1908 had none. On the Pacific coast the same rates are maintained at all ports and secured by agreements, though the rates at each port differ according to the ports for which the vessels are to be cleared.

renewed.¹ The Marine Engineer's Beneficial Association also maintains uniform rates for the Great Lakes.²

The Longshoremen since 1905 have maintained by agreement with the Lumber Carriers' Association uniform rates per hour for loading lumber on the Great Lakes. The present arrangement was preceded by separate agreements for the lumber loading locals of Lake Superior and those of Lakes Huron and Michigan.³ The "marine" branches of this union, namely, the Licensed Tugmen's Protective Association, the Tug Firemen's and Linemen's Protective Association, the International Brotherhood of Steam Shovel and Dredgemen, the International Brotherhood of Dredge Workers, and the Surface Rock and Drill Workers, have rates secured by agreements with employers' associations and individual companies which approach closely to uniformity, but are not yet identical for all ports. Other minor branches of the Longshoremen have many separate port rates secured by local agreements.⁴

The Miners' time rates for men working inside the mines, such as track-layers, drivers, cagers and timbermen have been uniform for the central competitive field since 1898. The rates for "outside" day men, carpenters, blacksmiths, engineers, and dynamo men, do not have the same uniformity. The Illinois district has a state minimum scale for "outside" men, but the local rates in many places are higher. In Indiana there are considerable differences between the scales north and south of the line of the Balti-

¹ Agreement between the Lake Seamen's Union and the Lake Carriers' Association, the Lumber Carriers' Association, for the season of 1907; Agreement, the Marine Cooks' and Stewards' Union of the Great Lakes, 1907.

² Wage and Crew List for Steamers operating on the Great Lakes, effective during season of 1908, the Marine Engineers' Beneficial Association.

³ A uniform wage scale at all the ports for the loading of lumber was first attained in 1905 by extending the Lake Superior scale to Lakes Huron and Michigan (Proceedings, 1905, pp. 77, 79; Proceedings, 1906, p. 16).

⁴ Proceedings, 1905, pp. 82-98; Proceedings, 1908, p. 16. This union is weak on the Atlantic coast and what rates it has there are port rates.

more and Ohio Railroad, the northern rates being appreciably higher. In Ohio the "outside" day scales are entirely local.

An approach to a system of sectional time rates is found in the railroad yard service. The wage rates for yard men—engineers, firemen, conductors and brakemen in the switching service—are established in the same agreements as the rates for the men in the train service. The facts that the road or system is the unit of negotiation and settlement and that the mileage rates for the members of the same unions in the train service are uniform for the road or system, are naturally influential toward uniformity in the yard-service rates.¹ There is much greater uniformity on most roads in yard rates in different cities than in the rates for any one of the building-trade unions in the same cities; but there is not yet the same matter-of-course uniformity that is found in the train-service mileage rates.

The railroad unions are striving for uniformity in yard rates, not only on the same road but throughout the country. At present there is much more non-uniformity in the East than in the West. Some of the non-uniformity is due to the fact that many yards, particularly in smaller cities are regarded as "second" or "third class" yards, that is, they do not require the same experience or exertion as the larger yards. These differences do not, however, account for all of the differences in rates. After years of endeavor toward uniformity the rates for points west of Buffalo and east of Chicago are in general one cent an hour less than rates at Chicago,² and rates east of Buffalo are two cents less than

¹ On a few roads the negotiations for the yard conductors and brakemen, or "switchmen," are carried on by the Switchmen's Union of America, which does not admit men in other branches of the service. Where the majority of the men in this branch of the service belong to this organization its committee carries on the negotiations and makes the settlement for all the men on the road. On roads where the majority of the switchmen belong to the Brotherhood of Railroad Trainmen the latter organization negotiates and settles for all. The Brotherhood of Railroad Trainmen also includes trainmen and conductors in the train service.

² The Chicago rates have for years been taken as the "standard"

those at Chicago. There are several roads in the East which have lower rates at certain points than these. Roads traversing a long east to west territory still have three or four or even more yard rates and these differences do not correspond to differences in the work done.

There is even less approach to uniformity on the same road in the rates for men in railroad shops, for instance, machinists, boiler makers, and blacksmiths. But here also the road is the unit of negotiation and settlement and the unions are moving toward uniformity for each road and section, and have secured rates more nearly uniform than the local rates in the same trades in other than railroad shops. The usual practice is for the railroad-shop local unions in each of these trades on the same road to form a "district council" for united action in wage matters. The wage demands are nearly always determined upon by the council as a unit and though they may be presented locally in the first instance to the master mechanics, the settlement is made for the road as a whole with the superintendent of motive power, or, more often, with the general manager. The minimum rates to be paid, however, are often set forth specifically for each city and may vary four or five cents an hour on the same line or system.¹

The practice of dealing with the roads as units, instead of for each shop separately, is comparatively recent in the experience of the railroad-shop unions. The first railroad "district" of this kind was organized by the Machinists in 1892. It did not prove so successful at first that the union was encouraged to introduce it widely.² After several years the district idea was taken up again, under a new plan of organization, and more successfully. The system spread

for yard rates. Eastern rates are lower and Western rates are as a rule higher than the "Chicago standard." Denver is two cents higher than Chicago.

¹ See for instances: *Machinists' Monthly Journal*, 1906, *passim*; *The Journal of the Brotherhood of Boiler Makers and Iron Ship Builders*, 1907, pp. 170, 269, 1907; *Ibid.*, p. 123, 1908; *Blacksmiths' Journal*, January, March, 1907; February, March, May, 1908; *Railway Carmen's Journal*, July, 1908, pp. 14, 359.

² *Proceedings*, 1893, pp. iv, ix, xxx.

rapidly, particularly in the West. By 1904 all of the railroad shops west of the Missouri belonged to districts.¹

The Blacksmiths and Boiler Makers, particularly the former, have followed the lead of the Machinists in this matter.² The Railway Carmen are also working for uniform "grand" district rates.³ The Car Workers have recently secured agreements with a number of roads and the Painters are striving for road agreements to replace separate shop settlements. The Machinists, who introduced the "district" system, are now working for sectional districts with the intention of introducing uniform working conditions and hours, and, as far as possible, uniform wage rates in each section. Progress has been made in dealing simultaneously with the large Western roads and in getting agreements for uniform shop conditions; but such uniformity does not yet embrace the rate.⁴ Rates in the Northeast are lower and present more variations than elsewhere in the country.

Soon after the national union of Meat Cutters and Butcher Workmen was organized, the officers began to work for a uniform wage scale,⁵ but urged caution in attempting to secure this. The 1902 convention favored a uniform scale,⁶ and by 1904 it was felt that the time had come to adopt and enforce it. A uniform scale of rates was accordingly adopted by the 1904 convention for the various branches of the union for the packing centers of the West. This was submitted first to the Chicago packing houses and in the strike which resulted the union was so badly defeated that it gave up the design of enforcing a uniform scale.⁷

¹ Machinists' Journal, 1903, p. 302; 1904, p. 325.

² Blacksmiths' Journal, January, p. 26, July, p. 10, September, pp. 33, 34, October, p. 22, November, p. 13, 1903; Proceedings, 1903, p. 10; Proceedings, 1905, pp. 10, 13; Proceedings, 1907, pp. 37, 48-9.

³ Proceedings, 1907, pp. 18, 54.

⁴ Proceedings, 1905, p. 1026. Machinists' Monthly Journal, 1906, pp. 714-18. Proceedings, 1907, p. 84.

⁵ Official Journal, December, 1900; January, 1901; Proceedings, 1902, pp. 25, 35.

⁶ Proceedings, 1902, pp. 25, 35-50.

⁷ Proceedings, 1904, pp. 34, 89-90, 92-3; Proceedings, 1906, pp. 7, 12.

The Iron Molders have long looked favorably upon the idea of uniform sectional time rates, although they have never put such rates into effect. The rate in a given city is in practice affected by and affects the rates in other cities.¹ In the conferences between the National Founders' Association and the representatives of the Molders relative to a national agreement both sides agreed to the general principle of a national form of agreement with sectional wage rates. It was agreed in the conference of October, 1902, that if it were found impracticable to have one national rate for each class of foundries the membership of the National Founders' Association should be divided into districts and a standard rate agreed to for each.

But the union and the employers could not agree on the extent to which the rate should be uniform within the districts. The employers wished the rate to be subject to a deduction outside the large cities based on differences in cost of living, to be not less than twenty-five cents a day. The union representatives opposed such a differential in favor of employers in the smaller cities, taking the ground that it was desirable to make labor cost as nearly uniform as possible in order to place all employers on the same basis. They took the position that this consideration should outweigh differences in the cost of living, a principle which was recognized in the agreement between the union and the Stove Founders' National Defense Association. The union steadily refused to give way on this point.²

National rates.—Several unions maintain national time minimum scales. In some instances these national rates are

¹ The Molders' representatives in a conference with a committee of the National Founders' Association in 1900 declared that if they secured an increase in the rate in Chicago they hoped to secure the same increase in other cities. Cincinnati was mentioned as one of the cities in which the same rate as Chicago could be secured (MS. Report of Proceedings of Joint Conference Committee of the National Founders' Association and Iron Molders' Union, Detroit, Mich., June 14-16, 1900; MS. Report of Conference, Montreal, July, 1900).

² Iron Molders' Journal, April, 1901, p. 191; MS. Minutes of Conference, October, 1902.

intended to be observed only as minimum rates by the local unions, which are expected to maintain local minimum rates as much in advance of the national rates as they may be able to secure. There are a few cases, however, in which the national rates are the rates actually governing—are, in fact, the standard rates in each locality. A few unions maintain national scales because much or all of the work in their trade is done by members travelling from city to city in continuous employment of one firm or individual. The Theatrical Stage Employees have a national scale for men travelling with theatrical companies in addition to local scales for men in the employ of local houses. The Bill Posters have a national scale for men travelling with circuses. The Compressed Air Workers have a uniform agreement for all contractors which includes a scale of minimum rates. The Bridge and Structural Iron Workers have a national scale for bridge work outside the jurisdiction of any local union. The rates in the larger cities are for the most part higher than this national rate.

National scales are also found in several small trades which are concentrated in a small number of places. The Machine Textile Printers, the Print Cutters, and the Machine Printers and Color Mixers thus maintain national scales and national scales alone.¹ The Mold Makers' department of the Flint Glass Workers' Union has a national time scale, following the lead of the piece-working branches. The Saw Smiths also maintain a national scale to the exclusion of local scales, though the membership of the union is not sectionally concentrated, and in some of its local unions the modal wage is above the national minimum.

National time rates which are intended to be observed only as minimum rates by local unions in establishing standard rates for their local jurisdictions and which do not preclude the establishment of higher rates by the local unions are comparatively rare. Such rates are maintained by the

¹ The two last mentioned unions establish their scales after conferences with the association of wall paper manufacturers.

Granite Cutters, the United Garment Workers,¹ the Coopers,² the Stove Mounters,³ the Lithographers,⁴ and the Leather Workers on Horse Goods.⁵ For the most part competition in these trades is much more than local and lower rates in some localities affect the rates in others unfavorably. The Shirt, Waist, and Laundry Workers and the Cloth Hat and Cap Workers have also adopted national minimum rates, but these are low rates, designed to bring up the rates in certain poorly paid branches; they have no appreciable effect on the wages of the great majority of the members. A few unions, as for instance, the Printers, the Carpenters, and the Wood Workers, for the same reason require the payment of a national minimum time rate as a condition for the use of their union labels.⁶

The Granite Cutters' Union is the only important union among the building trades which maintains a national minimum rate that is high enough to exert influence upon any considerable number of local standard rates. It is also one of the very few among the building-trade unions in which competition between localities has long presented a difficult problem in fixing rates. The maintenance of a national minimum to be observed by the local unions in determining standard rates is a compromise measure adopted after years of striving for a national uniform rate. When the national

¹ Garment Worker, November, 1901; Proceedings, 1901; Proceedings, 1906; Proceedings, 1908, pp. 73, 95. This minimum rate is for the cutters.

² The Coopers' minimum is for men on machine-made barrels. The union since 1905 has had a national agreement with the Machine Coopers Employers' Association covering this class of work (Coopers' Journal, November, 1906; September, 1908, pp. 538, 542-3).

³ Constitution, 1908, Art. IX, sects. 5 and 6; this is a predominantly piece-working union.

⁴ Constitution, 1906, Art. XVI.

⁵ Constitution, 1907, Resolutions; Leather Workers' Journal, June, 1907, p. 639. This applies also to men working piece work.

⁶ Barnett, p. 142; Proceedings of Brotherhood of Carpenters and Joiners, 1900, p. 73; Proceedings, 1902, p. 123; Constitution, 1907, sec. 219; Proceedings of the Amalgamated Wood Workers, 1903; see also Spedden, "The Trade Union Label," in Johns Hopkins University Studies in Historical and Political Science, Ser. XXVII, No. 2, pp. 55, 56.

union was organized in 1877, one of its main objects, if not the main object, was the establishment of a uniform rate of wages. The constitution adopted in that year provided that there should be an annual congress of representatives from each state in which there were branches, to fix "the standard of wages," which, upon ratification by the membership, was to apply to all branches.¹ Before the year was out several of the local unions began to entertain doubts as to the wisdom of attempting then to enforce a uniform rate. The number of places working under the piece system appeared an obstacle to some and others saw the difficulty of raising rates in the more poorly paid localities.² However, the branches voted in December against postponing or giving up the meeting of the congress,³ and in February it met in Boston to establish "a standard rate of wages and bills of prices for piece work if found practicable."⁴

The congress decided that it would be "injudicious" to attempt to enforce a uniform piece list and that each locality should set its own piece prices subject to approval by an International committee. This action was in accord with the recommendation of the committee of the congress which had the matter of the uniform wage in charge. The same committee recommended also that the congress adopt a "minimum standard" of two dollars and a half per day; but the congress instead passed a resolution "that a standard day's wage should not now be established because of the inability of the union to enforce a demand for any fixed price." It urged the members to labor "for full and complete organization of the union so that the union cannot only make but enforce a demand for a standard of wages."⁵

¹ Constitution, 1877, Art. X. This standard rate was to apply to all branches "except in malarious climates, or where the expense of living is above the average," the national union to determine in what places more than the standard should be paid and the amount of the excess (*Granite Cutters' Journal*, July, 1877).

² *Granite Cutters' Journal*, September, October, November, December, 1877.

³ *Ibid.*, December 31, 1877.

⁴ *Ibid.*, February, 1878.

⁵ *Ibid.*, February, 1878.

The constitution was then amended so as practically to give the branches power to establish their own wage rates.¹

After the failure of this movement for a uniform rate, competition made itself felt between the branches. There was a great deal of complaint from the branches in cities outside of New England of the low rates in force in the New England quarrying centers, and in Quincy in particular. These low rates, it was contended, induced employers to bring in stone from New England with as much of the cutting as possible done before shipment, and also to resist demands for rates higher than those paid in New England.² There were complaints, too, from some New England towns that their rates were kept down by the lower rates of other local unions in that section. In 1886 a movement was inaugurated for a uniform bill for New England.³ Although it was pointed out that there would be grave, if not insurmountable difficulties in formulating a uniform piece bill for New England the idea met with general favor.⁴ A congress of the New England local unions was called to meet in Boston to establish a uniform bill, but the attempt was not successful.⁵ Physical difficulties prevented the formulation of an acceptable piece bill and differences in prevailing time rates of wages were too great for the enforcement of a single standard. Shortly after this an attempt to agree on a uniform piece bill for the state of Maine also met with failure.⁶

Complaints of the injurious effects of the lower rates in force in other places continued to come in during the following years,⁷ and occasional suggestions were made for a national uniform rate or a national minimum bill or time

¹ Constitution, 1880, Art. X.

² Granite Cutters' Journal, May, September, 1881; January, June 1883; May, 1886.

³ Ibid., July, 1886.

⁴ Ibid., September, October, November, December, 1886; February, 1887.

⁵ Ibid., March, 1887.

⁶ Ibid., August, 1889.

⁷ Ibid., March, April, May, 1887; August, 1889; November, 1891; June, 1893; April, June, 1894; March, April, July, August, 1896.

rate as a remedy.¹ Late in 1896 a proposal was put before the branches for a national minimum of three dollars.² The proposal was not welcomed by some of the New England local unions. The Quincy branch opposed it outright, and the Concord, New Hampshire, branch wished to substitute a minimum of two dollars and seventy-five cents.³ But in the spring of 1897 the constitution was revised and a provision inserted that after 1900 all bills of prices should be established on the basis of a minimum wage of not less than three dollars a day.⁴

In 1900 the general sentiment for the enforcement of the three dollar minimum was strong. The Western branches particularly urged the New England local unions to stand fast for the national minimum in their negotiations with employers.⁵ But some of the New England local unions made settlements which left some members below the three dollar rate.⁶ The official journal of the union declared, however, that the three dollar minimum was only temporarily laid aside and that the union would continue struggling for it until it was observed everywhere.⁷ In 1903 many New England branches renewed their agreements; but all did not secure the national minimum.⁸ Finally in the settlements of the spring of 1905, the last places were brought into line.⁹

The adoption of the national minimum has thus had a direct influence in bringing up the rates of the more poorly

¹ Granite Cutters' Journal, January, 1887; November, 1890; February, June, 1891; April, 1894; November, 1896.

² Ibid., December, 1896; January, 1897.

³ Ibid., February, March, 1897.

⁴ Ibid., June, 1897. Constitution, 1897, sec. 198. The decision to establish a national minimum was undoubtedly influenced by the fact that piece work had been given up in many places in the years immediately preceding. In 1897 the majority of the branches outside New England were on day work almost exclusively and had minimum rates of three dollars or more.

⁵ Ibid., January, February, 1900.

⁶ Ibid., May, 1900; June, 1908, p. 6.

⁷ Ibid., June, December, 1900.

⁸ Ibid., January-April, 1903.

⁹ Ibid., January, February, May, 1905.

paid branches. According to a statement made in the Granite Cutters' Journal of August, 1908, in more than half the branches the minimum rate is identical with the national minimum. But the enforcement of the national minimum has not put an end to the complaints that several New England branches by not establishing higher rates are holding back other cities from securing higher wages.¹ A national uniform rate is still occasionally suggested, but it does not seem likely that one will soon be attempted.² During 1908 there was a revival of the agitation within the union for a uniform New England rate to prevent employers "playing off" one place against another to keep rates low in all.³

Similar in purpose to the national minimum of the Granite Cutters are the state minimum rates maintained by a few unions, particularly the Granite Cutters and the Stone Cutters, the two unions in the building trades in which most is heard of competition between places. These state rates are not necessarily the standard rates actually established in each locality; in many places the standard is higher than the state minimum. In addition to preventing any local union having a rate below a fixed point the state minimum provides a rate for work done outside the jurisdiction of any local union.

Agitation among the Stone Cutters' branches in Texas for a state minimum began as early as 1894. The chief reason was a desire to put an end to low wages on "jobs" just outside the jurisdiction of the high-rate towns.⁴ A state minimum rate was not established in Texas, however, until

¹ Granite Cutters' Journal, June, 1906; June, November, 1907; January, February, April, 1908.

² Ibid., June, 1906; October, 1907.

³ Ibid., February, May, June, July, August, 1908. Manchester (N. H.) and Concord (N. H.) have the same bills, except for one clause (Agreements, 1905-8). The national minimum does not apply to machine polishers. In 1907 the Concord machine polishers agreed with their employers that they were to have a three dollar minimum if Barre and Quincy secured it (Granite Cutters' Journal, June, 1907).

⁴ Stone Cutters' Journal, June, July, 1894.

1899.¹ The feeling for state rates grew in 1898 and 1899,² and the national convention in 1899 adopted a resolution urging each "state or province" to establish a minimum rate of wages.³ The state rates established since then have been mostly in the West and South.⁴ Among the Granite Cutters, Missouri had a state scale in May, 1896,⁵ Oregon had one in 1899, and California established a state rate in the same year.⁶ As among the Stone Cutters the state rates are confined to the West and South where the number of branches in a state is not large and the conditions are more uniform than in the East. The Bricklayers have also recently adopted a "uniform" state rate in California.

Conflict of rates.—Interesting questions have arisen in the use of time scales as to which of two rates ought to govern in cases in which a member of one local union is taken by his employer to work in the jurisdiction of another local union, or work is shipped from one local union to be finished or put in place in another. It often happens in the building trades that an employer brings a union man from his home city into another city in which the union rate is different. It frequently happens, too, that an employer buys from another city in which the union rate is lower woodwork, cut stone or granite, or metal work partially or wholly prepared for use in a building, which might have been prepared in the city where it is used. In these cases the question has been raised as to which rate should be enforced. The point really at issue in the first of these cases is whether the men brought in should be governed by their home scale when the latter is the higher; for it is a practically universal rule that no union will allow men to come from one locality to another and work for less than the rate maintained in the

¹ Stone Cutters' Journal, April, 1901.

² Ibid., December, 1898; February, March, 1899.

³ Ibid., January, 1900, Supplement; Constitution, 1900, Art. XXXII; Constitution, 1909, Art. XXX.

⁴ Ibid., February, 1901; January, August, 1903; January, February, 1904; January, 1906.

⁵ Granite Cutters' Journal, April, May, 1896.

⁶ Ibid., November, 1901.

latter. Nearly all the unions which have rules on the point hold that the higher rate shall govern, whether it be that of the locality in which the work is done or that from which the men are brought by an employer of their city.¹ The Bricklayers present an exception to the above practice. Several years ago a number of members of a Pittsburgh local union went to Buffalo with a Pittsburgh contractor and accepted the Buffalo rate, which was lower than the Pittsburgh rate. The matter was brought to the Judiciary Board for a decision, and the board decided that the men had a right to do that, though they also had a right to refuse to go for less than the Pittsburgh rate.²

In the second class of cases—those involving the shipment of materials—there is diversity in present practice. The local unions to which the work is shipped feel that the work done on the materials ought to be paid for at the local rate; otherwise union men are competing with them by working at less than their rate of wages. Some of the national unions interested, particularly the Carpenters, the Woodworkers and the Granite Cutters, insist only on the payment of the rate of the locality in which the work is done. The first two, however, have national minimum rates for the use of their labels and the Granite Cutters have a national minimum rate for all work. The Sheet Metal Workers, the Marble Workers, and the Boiler Makers insist that the scale of the local union in which the work is to be set up shall be paid if it is the higher.³ The Stone Cutters after a long struggle with the question have finally taken the same position as the Granite Cutters.

For years the Stone Cutters attempted to maintain the rule that stone could not be shipped from one place to

¹ This is the rule among the Carpenters, Painters, Plumbers, Steam Fitters, Lathers, Elevator Constructors, Sheet Metal Workers, and Slate and Tile Roofers. Of course, workmen as individuals may leave one locality and go to another to work for an employer in the latter at the standard rate there prevailing. It is only when workmen go in the employ of the home contractor that the rule applies.

² Proceedings, 1904, pp. 308-9.

³ Boiler Makers' Constitution, 1908, Art. XVI, sec. 18.

another unless the union wage rate at the shipping point was equal to that of the receiving point, except "in cases where the interchange of work between the two branches is mutually agreeable without regard to wages."¹ This rule was not strictly observed, and stone was shipped into the jurisdictions of branches from lower rate localities in many cases in which it was not agreeable to the former.² The question as to the shipment of stone became involved with that of the use of the machine planer. The absolute prohibition of the shipment of planer-cut stone into the jurisdiction of those local unions which had succeeded in keeping out the planer³ seems to have strengthened the feeling against the shipment of stone. In the 1902 convention the sentiment was strongly in that direction and shipment was forbidden in all cases in which it was not agreeable to the unions at the receiving points.⁴ Nor did this rule prove satisfactory. It did not stop the shipment of stone, and it aroused many complaints. It was repealed in 1904 and the convention allowed the transportation of hand-cut stone where wages and hours were equal.⁵ The action of the 1904 convention did not settle the question, as the shipments continued.⁶ Some of the shipping local unions with lower rates put special rates on work that was to be shipped equal to the rates at the points of consignment. The receiving points objected that this was an evasion of the constitutional rule against "more than one rate of wages." The executive board was divided on the point and made no decisive ruling,⁷ and the shipping local unions continued the practice,⁸ while

¹ Constitution, 1892.

² *Stone Cutters' Journal*, March, April, 1895; November, 1897; March, 1898; May, June, July, 1899; June, 1902; January, 1904.

³ Constitution, 1900, Art. XII, sec. 2.

⁴ *Stone Cutters' Journal*, January, 1903, Supplement, pp. 17-21; Constitution, 1902.

⁵ *Stone Cutters' Journal*, October, 1904, Supplement, pp. 13-19; Constitution, 1904, Art. XII.

⁶ *Stone Cutters' Journal*, January, September-November, 1905; January, February, August, 1906. One of the national officers stated in 1908 that three-fourths of the stone set was shipped in already cut.

⁷ *Stone Cutters' Journal*, January, September, 1905.

⁸ *Ibid.*, January, February, March, May, June, 1906; June, 1907.

the receiving points continued their complaints against the competition of lower-rate shipping points.¹ In 1906 the president and secretary of the national union declared against the rule, upholding the contentions of the shipping local unions that it was "unfraternal" to object to stone cut by union men, and that as the shipping unions could not force up their rates the strict enforcement of the rule would drive the work from union to non-union men.² The repeated recommendations of the officers proved effective. The 1908 convention struck out the article in question and left shipment entirely free.³

III

COMPARISON OF PIECE AND TIME RATES

The tendency toward wider than local areas of rate application is not nearly so strong among the time-working as among the piece-working unions. This is due in large part to the fact that the areas of competition are not so wide for the time-working trades as a group as for the piece-working trades. Aside from the unions referred to above as maintaining sectional or national standard or minimum rates, it is generally true of the time-working unions that competition is for the most part local.⁴ In the numerically largest group of time-working trades, the building trades, competition, except in cutting stone and preparing wood and metal to be put in place on buildings, is not operative to an appreciable extent as an influence toward wider uniformity in rates of wages. In some other unions part of the work done under time rates is competitive over much wider than

¹ *Stone Cutters' Journal*, October, 1905; January, 1906.

² *Ibid.*, January, February, March, August, 1906; June, September, 1907; May, June, August, 1908.

³ *Ibid.*, September, pp. 8-10, December, 1908; *Constitution*, 1908.

⁴ Where the product can be easily shipped in competition, it is likely to be classified and standardized so that different patterns or styles are known to the trade. In such trades piece work is physically feasible and piece work with sectional and national scales or with a sectional or a national system of equalized lists is likely to be acceptable both to the manufacturers and the men. Hence, we find that most of the trades which are subject to wider than local competition are on a piece work basis.

local areas, as is the case with the Molders, the Machinists, the Bookbinders and the unions in the printing trades. This is not, however, the major part, though it is considerable enough to arouse some feeling for greater uniformity.¹

But there are many cases of non-uniform time standard rates within areas of experienced competition. There is, generally speaking, less adjustment of time-standard rates than of piece rates to avoid competition between local unions. It is safe to assume that if the competitive work done under varying time rates by members of the unions just referred to were done under the piece system, and uniform price lists were physically possible, in some of these unions the rates would be of wider application than at present and in the others there would have been a much stronger agitation for uniform rates than there has been. The explanation of the wider area of piece than of time rates is to be found partly in a difference in the relation of the two classes of rates to competition as well as in the more local character of the competition in most time-working trades. There is an evident difference between the two forms of rates in the degree of direct connection with recognizable labor cost. Non-uniform piece rates where conditions are similar are standing evidence of differences in labor cost for the product or its parts.² Where minimum time rates differ, proportional differences in labor cost do not necessarily follow. The differences in the minimum do not necessarily indicate a similar difference in the wages actually paid. Moreover, and this is more important, the higher rates of wages are often paid in the localities which have men of higher than average efficiency. There is a tendency for the higher-rate cities to attract the better men, at

¹ Machinists' Journal, 1905, p. 710; 1907, p. 42; Iron Molders' Journal, April, 1900, p. 212; Proceedings of the Bookbinders, 1896, 1898, 1900, 1902; The Bookbinder, June, 1904, p. 106; Barnett, pp. 30, 36, 40, 140.

² Non-uniform shop piece prices in the metal trades arouse little comment, because they are as a rule not published and are not for pieces standard in the trade as are the pieces in the glass, iron and steel, and pottery trades.

least, within the same general section. A change to a uniform time rate for all localities in the same section would not mean the removal of inequalities in actual labor cost to nearly the same degree as the establishment of uniform piece prices for the same patterns made under the same physical conditions.

The fact that employers do not regard differences in time standard rates as indicative of proportional differences in labor cost accounts in large measure for the smaller relative importance which most time-working unions have attached to securing uniform standard time rates for competitive areas. There is not the same impulse toward uniformity from the high-rated local unions in order to hold their own employers to the higher rates which is evident in piece-working unions when rates are not uniform, for the employers in localities paying the higher rates do not offer the same resistance to paying more than employers in other places. Time rates in competitive trades are more influenced, too, by local conditions than are piece rates. Time rates stand out plainly in connection with the cost of living and in comparison with wages in other trades of more local competition. In piece scales, on the other hand, it is the price per piece that stands out, not the weekly earnings, and in setting the price for each piece the price paid by competing manufacturers in other places must be given more attention by the union than the local cost of living or the local wages in other trades.

There is, to be sure, a widespread feeling in favor of uniformity in rates among members of time-working unions. It is founded on the desire of most local unions to obtain as high rates as any in the trade, and is reënforced by the desire of the higher-rated unions when the product is competing over a widespread area to force the lower-rated unions to demand rates as high as their own. But it is the second feeling alone which effectively influences the policies of national unions, except in the case of the railroad, seamen's and longshoremen's unions. In these unions the

wider areas over which the service is rendered and for which distinct negotiations are conducted are naturally made the units of application of the rates agreed upon. Where the wage agreements must be local, and particularly where competition is largely local, the desire for uniformity does not prevail over differences in local conditions. And even where competition between localities is keenly felt, the state minimum, or at best the national minimum, is apparently the most that can be hoped for.¹

¹ The officers of such unions as the Machinists and the Granite Cutters state that differences in local minimum rates cannot be overcome. The rates will necessarily vary with local conditions, the chief of which is cost of living. Some places cannot be brought up to the level of the average and the general level of the others must be above the average.

CHAPTER IV

THE FORM OF THE RATE

American trade unions fall into several distinct groups when classified with respect to their attitude toward the system of wage payment. The first and most obvious distinction is between those unions which accept the piece system willingly, or even preferably, and those unions which prefer the time system, even to the point of opposing piece work. The group of unions which accept the piece system willingly may be conveniently divided into two groups—one composed of predominantly piece-working unions, and one of unions in which a majority of the members work under the time system. Similarly, those unions which oppose piece work may be grouped according to whether a majority or a minority of their members are remunerated under the piece system. A distinct group may also be made of those time-working unions in which the question of accepting piece work is not now an issue. There is no important time-working union which desires to change to the piece system.

I

THE ATTITUDE OF THE UNIONS

From this standpoint, therefore, there may be distinguished five groups of unions: (1) unions in which piece payment is the prevailing system and which accept piece work willingly; (2) unions in which piece work is not the prevailing system, but which accept it without opposition in those places or branches in which it is desired; (3) time-working unions in which the piece question is not an issue; (4) unions in which piece work is the prevailing system and in which there is opposition to the piece system; (5) unions

in which time work is the prevailing system and in which piece work is opposed.¹

An attempt has been made to ascertain the membership of the unions included in each of these five groups. This has not, of course, been done with exactness. The statistics of membership available are only approximations, and the number of members working under the piece system in those unions in which there is any considerable number of piece workers has been but roughly estimated and for a few unions not even an estimate has been obtained. Yet the statistics here given are offered in the belief that they give a substantially correct impression of the proportion of the total union membership included in each of the five groups indicated above, and of the distribution of piece workers among the various groups.

The aggregate membership of the unions included in the following tables was in 1908 about 1,707,400. These include all the national unions affiliated with the American Federation of Labor except three small unions with a total membership of 1700 about whose wage systems no information was obtained. These 113 national unions reported to the Federation in 1908 an aggregate membership of 1,561,500. The following unions not in the Federation are also included, Bricklayers and Masons, Flint Glass Workers, Machine Textile Printers, the Marine Engineers, Plasterers, Window Glass Workers, Railway Carmen and Railway

¹ The four unions in the railway train service, the Brotherhood of Locomotive Firemen, the Brotherhood of Locomotive Firemen and Enginemen, the Brotherhood of Railroad Trainmen and the Order of Railway Conductors, follow a system of payment which is neither a pure time nor a pure piece system, and consequently are not concerned in the question of preference for one kind of rate over the other. The great majority of their members are paid according to miles covered, modified by the number of hours worked (see above, pp. 72-76). A considerable minority of the members of these unions, those engaged in the yard switching service, are paid by the day; but the question of preference is not raised since no other system of payment seems feasible for this kind of work. The system of payment is not an important issue between these unions and the railroad companies, though on some roads the mileage basis has not yet been adopted to the extent desired by the unions. These unions include 272,500 members.

Clerks. These had a membership in 1908 of 145,900. A few small national unions not affiliated with the Federation, the Industrial Workers of the World, with a membership of 13,200, the Western Federation of Miners, with a membership of 30,500 and the Knights of Labor, whose membership could not be ascertained, are not included.

1. The group of unions in which piece payment is the prevailing system and is accepted willingly, includes twenty-four unions with an aggregate membership of 399,500. This comprises such important unions as the Cigar Makers, the Flint Glass Workers, the Glass Bottle Blowers, the Hatters, the Amalgamated Association of Iron, Steel and Tin Workers, the Potters, and the Window Glass Workers. The Broom and Whisk Makers, the Chain Makers, the Elastic Goring Weavers, the Gold Beaters, the Lace Curtain Operatives, the Leather Workers, the Mule Spinners, the Pen and Pocket Knife Grinders, the Powder and High Explosive Workers, the Stove Mounters, the Table Knife Grinders, the Tin Plate Workers, and the Wire Weavers also work by the piece willingly and have at least two-thirds of their members at work under the piece system. The United Mine Workers, the largest American union, has at least sixty per cent. of its membership on piece work and prefers it for men engaged in mining and loading at the face.¹ The Coopers also have a large majority of their members on piece work and make no objection to the system.² In the Boot and Shoe Workers' Union and the Textile Workers' Union the system of remuneration is left entirely to the local union and the national union has no policy with reference thereto; but in both unions three-fourths of the members are piece workers and the national officers state that the majority of the members prefer payment by piece to payment by time.

¹ Nearly all the workers in this union for whom piece work is feasible are piece workers.

² In his report to the 1902 convention, the secretary of the national union advised the piece workers to strive to "abolish, as far as possible, the undesirable piece system" (Proceedings, 1902, p. 345). But the present secretary is of the opinion that the system of payment "will never be changed."

It may be estimated that at least 274,000, or two-thirds of the total union membership in this group, are actually working under the piece system.

The membership of these unions is approximately as follows:

Boot and Shoe Workers	32,000
Broom and Whisk Makers	800
Chain Makers	600
Cigar Makers	40,900
Coopers	4,900
Elastic Goring Weavers	100
Flint Glass Workers	7,000
Glass Bottle Blowers	8,800
Gold Beaters	500
Hatters	8,500
Iron, Steel and Tin Workers	10,000
Lace Curtain Operatives	800
Leather Workers	800
Mine Workers	252,500
Mule Spinners	2,200
Pen and Pocket Knife Blade Grinders and Finishers	300
Potters	5,900
Powder and High Explosive Workers	500
Stove Mounters	1,400
Table Knife Grinders	300
Textile Workers	12,900
Tin Plate Workers	1,400
Window Glass Workers	6,100
Wire Weavers	300

2. The second group of unions consists of those in which piece work is not the prevailing system but in which a considerable number of local unions or branches of the trade accept it without opposition and without discouragement from the national union.¹ There are in this group nine national unions as enumerated below. The Tobacco Workers' Union has about half its members working under the piece system and the union offers no objection. The Longshoremens and Marine Transport Workers have many branches on the Great Lakes under the piece system. For men engaged in the loading and unloading of vessels, except the lumber loaders, this is the prevailing system.² The piece

¹ See also below, p. 199, note.

² This union has no national policy as to systems of payment. The writer has been unable to secure a close estimate of the part of the membership working under the piece system; it is at least one-third but less than one-half.

system also prevails in the stove-molding branch of the Molders' Union and has been accepted practically without opposition in that division of the trade for the past ten years.¹ The Lathers' Union allows wood lathers to work under the piece system if they choose and in most of the smaller local unions this system is followed. The workers in a few branches of the Brick, Tile and Terra Cotta Workers for whom the piece system is feasible work under it without objection. The Typographical Union has nine-tenths of its members on the time system; but local unions may permit piece work, and an increasing number of local unions are adopting piece scales for machine typesetting, a branch of the work until recently almost exclusively under the time system.² The Slate Workers and Tip Printers have some piece-working branches, but these apparently include but a minority of the membership. The Steel and Copper Plate Printers and the Steel Plate Transfers each have a considerable part of their members on the piece system without active opposition. The writer has been unable to ascertain whether these constitute a majority of the membership, and on that account they are included here rather than in the list of predominantly piece-working unions.

The membership of the unions in this second group, exclusive of the Molders, aggregates 92,900. The total membership of the Molders is not included because of the strong opposition of that union to piece work in certain branches of the molding trade. If the members engaged in stove molding be added, the total of the group is 110,900. Probably 40,000 of these are piece workers. The membership of this group is distributed as follows:

¹ One of the officials of the national union estimates that the number of members in this branch varies from 18,000 to 24,000, with the state of trade. The total membership of the union was given in 1908 as 50,000.

² Barnett, p. 132. In 1887 the membership by referendum vote declared in favor of abolishing piece work in book and job offices. In 1891, when the International Union adopted a definite policy with reference to typesetting machines, the convention advised the local unions to adopt the time system of payment for operators. At present a considerable proportion of the membership is strongly opposed to piece work.

Brick, Tile, and Terra Cotta Workers	2,800
Longshoremen	31,500
Slate Workers	2,700
Steel and Copper Plate Printers	1,200
Steel Plate Transferrers	100
Tip Printers	200
Tobacco Workers	4,600
Typographical Union	44,000
Wood, Wire, and Metal Lathers	5,800

3. By far the largest number of unions fall into the class of those which follow the time system exclusively or almost exclusively, and in which the question of working under the piece system is not an issue with the employers. This group includes the following unions, with an aggregate membership of about 864,600 or fifty-one per cent. of the total union membership here under consideration:

Actors	1,100
Bakers	10,500
Barbers	25,500
Bill Posters	1,400
Brewery Workmen	40,000
Bricklayers and Masons	64,600
Bridge and Structural Iron Workers	10,000
Carpenters and Joiners (Amalgamated)	8,100
Carpenters and Joiners (United Brotherhood of) ..	179,600
Cement Workers	7,300
Commercial Telegraphers	1,900
Compressed Air Workers	1,300
Cutting Die and Cutter Makers	300
Electrical Workers	32,100
Elevator Constructors	2,500
Freight Handlers and Warehousemen	7,800
Foundry Employees	700
Granite Cutters	13,000
Heat, Frost, General Insulators, and Asbestos Workers	800
Hod Carriers and Building Laborers	11,200
Horseshoers	6,100
Hotel and Restaurant Employees	38,600
Lithographers	1,100
Machine Printers and Color Mixers	500
Machine Textile Printers	400
Maintenance of Way Employees	13,500
Marble Workers	2,200
Marine Engineers	10,900
Meat Cutters and Butcher Workmen	6,300
Musicians	37,500
Paper Makers	4,300
Pattern Makers	5,500
Pavers and Rammermen	1,500

Photo Engravers	2,900
Plasterers	15,200
Plumbers and Gas Fitters and Helpers	18,000
Post Office Clerks	1,200
Printing Pressmen	17,200
Print Cutters	400
Quarry Workers	4,500
Railroad Telegraphers	15,000
Railway Clerks	9,100
Retail Clerks	50,000
Composition Roofers	1,000
Seamen	25,500
Sheet Metal Workers	16,100
Shipwrights, Joiners and Caulkers	1,600
Slate and Tile Roofers	600
Stationary Firemen	17,300
Steam Engineers	16,800
Steam and Hot Water Pipe Fitters and Helpers ...	5,600
Stereotypers and Electrotypers	3,100
Stone Cutters	8,300
Street and Electric Railway Employees	32,000
Switchmen	9,300
Teamsters	37,700
Theatrical Stage Employees	6,200
Tile Layers and Helpers	1,900

In a large number of unions in this group, and for the greater part of the workmen, piece work does not seem practicable. This is evidently the case in such unions as the Retail Clerks, the Steam Engineers, the Stationary Firemen, the Musicians, the Seamen, the Street Railway Employees, the Commercial Telegraphers, the Railroad Telegraphers, and the Theatrical Stage Employees. In many other unions in this group, as in the building-trades unions generally,¹ the Brewery Workmen, the Horseshoers, the Pat-

¹ Practically all the work done on buildings by members of the unions in this group is done under the time system. Some shop workers of the Sheet Metal Workers and the Electrical Workers and a few millmen of the Carpenters work under the piece system, and a number of local unions of the Granite Cutters, the Stone Cutters, and the Bricklayers and Masons allow piece work on kerbing, bridges, and other rough work which competent journeymen will ordinarily not do when building work can be obtained. A few local unions of the Granite Cutters still have some members working in yards under the piece system. But in all these unions the piece system is in force for so few members or in such relatively unimportant branches of the trade that it is not at this time an issue. The Brewery Workmen include in their union some women and boys on piece work in the bottling departments, and the Bakers have some confectionery workers under the piece system. The Meat

tern Makers, and the Teamsters, piece work is not feasible.

The unions in this group would doubtless oppose with vigor any attempt to extend or introduce the piece system. In many of these trades the union has been instrumental in eliminating piece work, or at least has at some time or other declared its opposition thereto. This is especially true in the building trades. Several of the building-trades unions have opposed the piece system and have succeeded in securing its abolition or in preventing its introduction on any considerable scale. It is now generally assumed in the building trades that any of the unions, except the Lathers, would resist attempts to introduce or extend the piece system for work on buildings.¹

The Stone Cutters and the Carpenters fought for years against piece work before it was practically given up in the trade. The piece system was common in stone cutting long before the present national union was formed, and the union made a vigorous fight against piece work in the early nineties.² The employers in most of the places where the piece system prevailed were not strongly opposed to giving it up and the union was successful in securing its practical elimination from the trade.³ From the formation of their national organization the Carpenters also have fought against piece work. Indeed the piece system was one of the trade evils which the national union was organized to combat.⁴ At an early date in the history of the union the members were prohibited from working under the piece system; but

Cutters have very few members on piece work now, as changes in methods of working have eliminated the system; but at one time there was a considerable number of pieceworkers in the union and the convention of 1902 adopted a resolution urging the local unions to abolish piece work (Proceedings, 1902, p. 81).

¹ Three building-trades unions not included in this group, the Painters and Paperhangers, the Wood Carvers, and the Wood Workers are entered below in the list of unions with a minority of piece workers which oppose the system.

² Constitution, 1892, Art. XVII, sec. 1; Stone Cutters' Journal, January, February, October, December, 1893; May, June, September, November, 1894; January, 1895.

³ Stone Cutters' Journal, October, 1897; March, 1898; October, December, 1899.

⁴ Constitution, 1886, Art. II.

it was not until very recently that it ceased to be an issue in work on buildings.¹ The union at present does not allow its members to work by the piece on any union building job.

The last of the older building-trades unions to oppose piece work as a national organization was the Granite Cutters. When the national union was organized in 1887, the majority of its members were working by piece. In New England, particularly, where the main strength of the union lay in the first years of its history, the day workers were few.² Even large cities outside the quarrying district, had piece bills and in New York the work was for the most part under the piece system.³ The national organization recognized both systems.⁴ The day system gained ground in the early eighties, and it became the practice in many places to make the "standard" rate for day men the basis for fixing piece prices.⁵ For the most part the change to the time system was without contest, the local unions favoring the change but not engaging in struggles to bring it about when the employers were seriously opposed. In New York, for instance, the change was made in 1881 at the instance of the employers, who preferred time rates to the "piece bill" then proposed.⁶

The growing sentiment against piece work resulted in an agitation which was taken up by many local unions in the spring of 1886 for the abolition of piece work by the national union.⁷ No action was taken at that time; but the agitation undoubtedly hastened the passing of the piece system.⁸ When the national constitution was revised in 1897 several branches suggested that the national union take

¹ Constitution, 1886, Art. VI, sec. 2, General Laws, p. 29; Proceedings, 1888, p. 20; Proceedings, 1898, p. 24.

² Granite Cutters' Journal, July, August, October, 1877; February, 1878.

³ Ibid., March, 1878.

⁴ Constitution, 1877, Art. X; Constitution, 1880, Art. XIII.

⁵ Granite Cutters' Journal, October, 1882; April, 1886.

⁶ Ibid., July, 1882; see also, Ibid., June, 1881; February, 1897.

⁷ Ibid., March, April, September, 1886.

⁸ Ibid., January, September, 1887; April, June, September, 1891.

action looking to the abolition of the piece system where it still lingered,¹ and a provision against piece work was inserted in the new constitution.² The union is now opposed to the piece system of remuneration except for aged and maimed members. The few piece bills which remain are chiefly for such members. Many branches forbid piece work altogether except on kerbing.

Much of the so-called "piece work" which has aroused opposition from unions in the building trades is not piece work under a regular price list, but consists in an individual workman bargaining to do a specific lot of work for a lump sum. An individual workman, or several workmen together, might agree, for instance, to lay the floors or hang the doors on a building for a given sum. This is generally known as "lumping" or "sub-contracting,"³ but it is also often called "piece work." Most of the building trades unions are opposed to "sub-contracting" and practically refuse to allow members to work under such a system. Lumping or sub-contracting of this kind differs from ordinary piece work, from the union standpoint, in that the union has no participation in fixing the price of the work. This system of payment was forbidden very early by some of the building-trades unions; in a few even while ordinary piece work was still permitted. The Granite Cutters' Union forbade sub-contracting in its first constitution.⁴ Local unions of the

¹ Granite Cutters' Journal, January, February, 1897.

² Constitution, 1897, sec. 2.

³ The term "sub-contracting" is also used where a sub-contractor hires workers to do the work or to assist in doing it, at hourly rates. This system is also opposed by the unions, which prefer direct employment by the original employer at hourly, or even at piece rates. Some of the building trades unions not only forbid their members taking such contracts but also prohibit their working for one who is sub-contracting. The general executive board of the Carpenters decided in 1887 that union members were not to work for a sub-contractor, even one who employed only union men and paid them at the union rate of wages (Constitution, 1888; Constitution, 1889, Standing Decisions, July 30, 1887; Proceedings, 1898, p. 61). The Plumbers also forbid sub-contracting of this kind; members are not allowed to sub-contract "nor work for any person who has taken such a contract" (Constitution, 1904, sec. 194).

⁴ Constitution, 1877, Art. XXI; Constitution, 1880, Art. XLI.

Stone Cutters prohibited it long before opposition to ordinary piece work appeared.¹ The Carpenters prohibited sub-contracting early in their history but did not distinguish it from other piece work.²

The unions which are opposed to piece work vary considerably in the extent to which their members work by the piece. They also vary greatly in their strength and in the intensity with which they are fighting or have fought the piece system. In some unions, ninety per cent. of the members are piece workers; in others, less than ten per cent. In some, the hostility shown toward piece work is hardly more than an expression of union opinion; in others the opposition is as yet limited to the declaration of a policy favored by the majority but which the union is not strong enough to press energetically. In only a few of these unions has opposition to piece work been carried to the point of rigid prohibition of its extension and to an aggressive policy of strikes for its abolition.

Among the unions in which a majority of the membership work by the piece and in which there is opposition to the piece system, no union is at present making a vigorous fight against the piece system. The noteworthy struggles which have been made in recent years for its elimination or in resistance to its attempted extension, have been made by a few unions in which a comparatively small minority of the members work by the piece. Most of the predominantly piece-working unions which do not accept piece work willingly feel that they are not yet in a position to

¹List of Prices for Piece Work of the Journeyman Stone Cutters' Association of Philadelphia, adopted May 12, 1851; Constitution of the Journeyman Stone Cutters' Association of the District of Columbia, 1854; Constitution, 1907, Art. XV.

²"Piece work is defined to be: work done under sub-contract where the work is not done by the day, or where a sub-contract is taken from a builder or contractor and where the building material is furnished by the builder or contractor, and the work is simply done for a certain price" (Constitution, 1886, General Laws). The Bricklayers seem to have allowed "lumping" in the earliest years of their organization (MS. Proceedings, 1869).

push their opposition much farther than a declaration in favor of its abolition whenever that may be practicable. A union with over half its members actually working under the piece system cannot ordinarily offer a very effective opposition, except at the risk of a costly strike. Under such circumstances the national union usually confines itself to urging the local unions to prevent the extension of piece work where they can and to insist on its abolition wherever they are strong enough to do so with some likelihood of success.

4. The group of predominantly piece-working unions which are opposed to the piece system includes eight unions, as below, with an aggregate membership of 65,900, approximately fourteen per cent. of the aggregate membership of all the predominantly piece-working unions.

Cloth Hat and Cap Makers	1,300
Fur Workers	400
United Garment Workers	43,900
Glove Workers	800
Leather Workers on Horse Goods	4,000
Metal Polishers, Buffers and Platers	10,000
Piano and Organ Workers	5,000
Travellers' Goods and Leather Novelty Workers	500

The Leather Workers on Horse Goods, with over three-fourths of their members on piece work, are clearly opposed to piece payment. Many of the members favor a concerted movement for its abolition, but for the time being this movement seems to have yielded precedence to an agitation for the reduction of the normal working day.¹ The Travellers' Goods and Leather Novelty Workers went on record in 1903 against the piece system, but have not been able to reduce it greatly;² three-fourths of the members are still working under the piece system. The Fur Workers have also recently declared against piece work, but have not yet begun a vigorous campaign against it.³ The officers of the

¹ Leather Workers' Journal, May, June, July, 1907.

² Proceedings 1903, pp. 12, 15, 23, 35, 38; Official Journal, September, 1904.

³ Furriers' Journal, April, 1907; April, 1908.

Cloth Hat and Cap Workers, the Glove Workers, the Metal Polishers, and the Piano and Organ Workers state that the majority of their members object to piece work, though it is the prevailing system in their trades.

The United Garment Workers are nominally opposed to piece work, but are not now actively fighting it, and in three branches of the trade it is accepted by the members without attempt, and probably without desire, to change to the time system. The shirt and overall, the pants-making and the vest-making branches have worked under the piece system for years and there is little hostility to it apparent in these branches. In the other branches the opposition seems to have lessened somewhat in the past few years. The most vigorous attack on piece work came from the coat-tailoring branch and from the cutters. Supported by the national officers, the opponents of piece work carried resolutions against it through the national convention,¹ and succeeded in having embodied in the national constitution a declaration in favor of week work as a substitute for piece work.² The 1901 convention instructed the coat tailors' local unions to attempt to abolish the piece system and to enforce the week system throughout the United States at the earliest possible date.³ The coat tailors thereafter did succeed in establishing the time system much more widely. Recently, however, the struggle against the piece system, even in the coat-tailoring branches, has been relaxed and piece work seems to be growing at the expense of day work,⁴ though occasionally a local union strikes for and obtains the abolition of piece work.⁵ The secretary of the national union states that "the membership works piece or week work as is the custom in the trade or as their strength will permit." He estimates that one-half the coat tailors are now on the piece system

¹ Garment Worker, December, 1895; January, 1896; August, 1898; Proceedings, 1899; Report of the General Secretary, 1900.

² Constitution, 1898, Art. XX, sec. 1; Constitution, 1906, Art. XX.

³ Garment Worker, November, 1901.

⁴ Proceedings, 1904; Weekly Bulletin, April 8, 1904; Proceedings, 1908, p. 73.

⁵ Weekly Bulletin, September 13 and 20, 1907.

and that of the members of the national union three-fourths are piece workers. Of the 65,900 members in the unions of this group about 50,000, according to estimates of their officials, are piece workers.

There are also a few predominantly piece-working unions in which there has been as yet no active opposition to piece work, but in which the officers favor a change to the day system and urge it as the proper policy for their unions to adopt. Since it is probable that these unions will assume a hostile attitude toward piece work if they become strong enough to offer effective opposition, they are grouped separately here rather than with the unions which accept piece work willingly. They are the Brush Makers with 400 members, the Ladies' Garment Workers with 1,600, the Paving Cutters with 2,000, and the Tailors with 16,100. These unions with the eight just considered include eighteen per cent. of the membership of all the predominantly piece-working unions.

In his report to the convention in 1905, the general secretary of the Tailors advised that the union should vigorously favor a change to the weekly system of payment.¹ Four-fifths of the members of this union are at present piece-workers. The president of the Ladies' Garment Workers has also expressed the belief that the members should try to secure a change to the time system,² but the majority of the members do not seem anxious to give up piece work. The national officers of the Paving Cutters and of the Brush Makers also express regret that the piece system cannot be done away with in their trades, but in neither of these unions is the membership ready to begin a

¹ Proceedings, 1905, in *The Tailor*, February, 1905.

² Proceedings, 1903, p. 9; Proceedings, 1906, p. 11; Proceedings, 1907, p. 10. With the exception of the cutters, nearly all the members are now on piece work. The cutters are usually time workers in the garment and cloth hat and cap trades. The employers prefer the time system for cutters since the cutters might not utilize the material to the best advantage if a premium were put upon the quantity of output by piece payment.

campaign against it.¹ In both of these unions nine-tenths of the members are piece-workers. It is safe to assume that at least 17,000 of the 20,100 workers in this group are now employed under the piece system.

5. Eighteen unions are included in the group of predominantly time-working unions which favor the total elimination of piece work. Their aggregate membership is 246,400, or approximately fourteen per cent. of the total membership of the unions here considered:

Blacksmiths	10,000
Boiler Makers	15,200
Bookbinders	7,900
Carriage and Wagon Workers	1,500
Car Workers	4,400
Glass Workers, Amalgamated	1,200
Jewelry Workers	400
Machinists	62,100
Molders (exclusive of 18,000 stove molders)	32,000
Painters, Decorators, and Paperhangers	64,800
Railway Carmen	32,600
Saw Smiths	300
Shingle Weavers	1,700
Shirt Waist and Laundry Workers	4,000
Upholsterers	2,800
Watch Case Engravers	200
Wood Carvers	1,300
Wood Workers	4,000

A number of these unions though heartily favoring the total abolition of piece work in their trades, are not making the change to the time system a vital issue. They do not give it the importance that is given, for example, to the establishment of a shorter work day or the closed shop. These unions look upon the complete abolition of piece work as highly desirable; but they are not pressing strongly for its abolition where it has been long established, though they offer what resistance they can to its extension. In most of these unions piece work is desired by only a small part of the employers or in minor branches of work.

¹ The national officers of some of the unions which do not object to piece work hold the opinion that the time system is preferable to the piece system, but they do not advise their unions to declare against the piece system or suggest that it would be wise to change. Whatever may be their personal opinions they accept the piece system officially without objection.

The Bookbinders, upon the recommendation of their president, adopted at their convention in 1896 a resolution urging the local unions to abolish piece work but left each local union free to work under either system.¹ Little has been done toward lessening piece work in recent years.² The constitution recognizes both systems, and about one-fourth of the members are still working under the piece system.³ The Wood Workers⁴ and the Wood Carvers⁵ both have rules against members accepting piece work in any shop in which it is not already established. The Amalgamated Glass Workers, the union of decorative glass workers and bevellers, with about one-fourth of the membership on piece work, has a similar rule;⁶ but so far no local union has attempted to abolish piece work. The Shingle Weavers, organized but a few years ago, have been in favor of the total abolition of piece work from the beginning.⁷ The Saw Smiths and the Carriage and Wagon Workers, their officers state, are opposed to the extension of piece work in their trades and hope eventually to secure its complete abolition. The Watch Case Engravers⁸ and the Jewelry Workers⁹ also favor its entire elimination.

The Brotherhood of Railway Carmen in 1907 adopted resolutions opposing "the introduction of piece work at

¹ Proceedings, 1896.

² In four following conventions the president of the union brought up the matter of piece work and urged the union to discourage and the local unions to abolish it (Proceedings, 1898; Proceedings, 1900; Proceedings, 1902; Proceedings, 1904, in the *International Bookbinder*, June, 1904, p. 106). In the report of the executive council for July, 1901, and in its report to the 1902 convention the president's recommendations were seconded. The piece-work question was not treated by the president in his reports to the 1907 and 1908 conventions, nor did it occupy any considerable place in the convention's deliberations (*International Bookbinder*, June, 1906; June, 1908).

³ Constitution, 1907, Art. XVIII. Piece work is confined almost entirely to large establishments, and to pamphlets and cloth or cheap leather bindings. It affects chiefly the women workers.

⁴ Constitution, 1905, sec. 168; Proceedings, 1909, p. 76.

⁵ Constitution, 1906, Art. XI, sec. 9, Standing Resolutions, sec. 2.

⁶ Constitution, 1905, sec. 154.

⁷ Proceedings, 1907, p. 38; Proceedings, 1908, p. 25; President's Report to the 1908 Convention.

⁸ Constitution, 1906, Preamble.

⁹ Constitution, 1903, Arts. II, XV.

any point on any system where it is not in vogue." This action was taken despite the fact that the president of the union had expressed his regret that members were making piece work a subject of contention with their employers and had recommended that the organization allow piece payment to continue and bend its energies to securing better prices.¹ A strike of several weeks' duration against the introduction of piece work on an important railway system of the Southwest occurred the next year but under the settlement the company was allowed to introduce piece work at its option.² The other organization of car workers, the International Association of Car Workers, is also opposed to the extension of piece work.³ The Brotherhood of Painters, Decorators and Paperhangers has long been opposed to piece work in other branches than paper hanging. The union favors day work for the paper hangers, but proposes the "gradual natural extinction" of piece work.⁴ The Upholsterers also have recently made the abolition of piece work one of their policies.⁵ The opposition in the Shirt, Waist and Laundry Workers is also recent, but the president has strongly urged his union to abolish piece work.⁶

The four important unions in the metal trades, in which time work predominates, the Blacksmiths, the Boiler Makers, the Machinists, and the Molders (except the stove-molding branch), have been long opposed to the piece system and have, as a group, made the most persistent and effective fight against it in recent years. For a large part of the work in these trades the piece system is not desired by the employers.

¹ Proceedings, 1907, pp. 17, 54, 68, 69.

² Railway Carmen's Journal, 1908, pp. 300, 405, 514.

³ Proceedings, 1907, pp. 17, 18, 20.

⁴ Official Journal, February, 1908, p. 86. Many members work at both paper hanging and painting, and the secretary of the national union is unable to estimate exactly the number of members affected by the piece-work issue. It is probably not more than a third of the membership.

⁵ Constitution, 1908, sec. 4. The writer was unable to secure an estimate of the part of the membership on piece work, but it is apparently well under one-half.

⁶ Report of the General President, September, 1907, to September, 1908.

In machinery and jobbing, general contract, and repair shops the work is usually not of such a character that the piece system is feasible. But in "specialty" or in railroad or locomotive shops, where there is frequent recurrence of pieces of the same kind, many employers have at times preferred to have their men work under the piece system. The unions are more strongly opposed to piece work in the general contract shops than to the more regular piece work of the large specialty, railroad, and locomotive shops, and have succeeded in almost eliminating it in the former.

The Blacksmiths' Union is not as strong as the Boiler Makers, Machinists or Molders, though it has gained ground rapidly in the last ten years. It has long been opposed to piece work and with increasing strength it has fought more and more vigorously against the extension of the piece system.¹ Several times it has joined the Machinists and the Boiler Makers in important strikes to prevent its introduction in railroad shops.² It has also secured the abolition of piece work in many shops. The president of the union estimates that not more than ten per cent. of the members are now working under the piece system. The present policy of the union is not to make an active fight against piece work where the system has long been established, but to secure its abolition where this is possible without serious strikes.

The Molders' Union has been concerned with the piece-work problem for over half a century. In the stove branch, in which the national union at its foundation was strongest, the piece system had been almost exclusively followed from the beginning.³ When foundries began to specialize in other branches of molding, as, for instance, on agricultural machinery, piece work was widely introduced in these specialty

¹ Constitution, 1897, Art. XI, sec. 4, of Constitution of Local Unions.

² For instance, *Blacksmiths' Journal*, June, 1903, p. 2; May, 1908, p. 24.

³ *International Journal*, October, 1866, p. 222; January, 1874, p. 229; *Iron Molders' Journal*, December, 1885, p. 5; March, 1894, p. 3.

shops.¹ In general jobbing and machinery foundries, on the other hand, the time system has always been the predominant one,² but even in this branch a number of manufacturers have from time to time desired some of their molders to work under the piece system. From the first the union has been opposed to piece work, but the opposition was not equally strong in all branches, and a policy of acceptance and regulation was often recommended by the officers. In recent years there has been a growing divergence in the policies pursued for the different branches of the trade, and in the stove-molding branch piece work is now practically unopposed.

Opposition to the piece system was very early manifested in the conventions of the national union. The second convention, that of 1860, recommended to the local unions the abolition of piece work,³ and this policy was consistently urged by the conventions for several years thereafter,⁴ but no active steps were taken in that direction by the national union. The strength of the union in its earliest years lay largely in the stove and hollow-ware branches of the trade,⁵ and both of these were piece-working branches. The seventh annual convention, that of 1866, adopted a rule, which was not to be effective until ratified by a three-fourths vote of the membership, that after January 1, 1867, piece work should not be accepted by union members. The president of the national union opposed the adoption of the rule, as he did not believe the time had arrived for such a radical stand against piece work.⁶ Only twenty local unions voted

¹ *Iron Molders' Journal*, July, 1876; December, 1885; January, 1888; March, 1894.

² *International Journal*, January, 1874, p. 229.

³ *Ibid.*, February, 1874, p. 258.

⁴ *Ibid.*, April, 1874, p. 322; May, 1874, p. 354.

⁵ Frey and Commons, *loc. cit.*

⁶ William H. Sylvis was then president of the union. The views which he expressed at that time as to the proper policy for the union to pursue with reference to piece work deserve quotation. He said, "Although I am opposed to piece work and fully acknowledge its evil effects upon the trade, and, although I as much desire its abolition as any man, yet I am free to admit the dangers, which in my opinion surround any legislation upon it, beyond an endeavor

on the question and these were nearly evenly divided.¹ The view expressed by the president of the union in 1866 was for years that generally held by the officers.² In the union at large, however, the feeling against the system and in favor of its abolition continued strong, and under this influence the convention from time to time condemned the piece system with vigor, but did not for years again recommend an outright struggle with piece-work as an issue.³

In the convention of 1886 the committee on piece work recommended the adoption of a rule requiring the abolition of piece work in all shops under union jurisdiction by May 1, 1887. The convention endorsed the recommendation, but left the decision as to the date on which the prohibition should become effective to the national officers, and also provided that the prohibition should first be ratified by a vote of the membership.⁴ The officers did not see fit to inaugurate such a movement, and though the opposition to piece work continued strong the convention refrained for a long period from recommending specific action.⁵ After 1895 the opposition to piece work stiffened. With increasing strength the union began a series of persistent local fights against the system in all branches except stove molding and particularly in the general jobbing and machinery foundries. In this last branch the movement for the abolition of piece work met with considerable success.⁶ This

to correct some of the abuses to which the system is subject. I give it as my deliberate opinion, reached after long and careful consideration, that piece work will never be abolished, and that, should this convention adopt a resolution fixing a time when it should cease, and undertake to enforce it, the result would be a dismemberment of the organization, and, perhaps, its total destruction" (*International Journal*, January, 1867, p. 309).

¹ *International Journal*, July, 1866, p. 121; January, 1867.

² *Iron Molders' Journal*, 1874, pp. 307, 354; July, 1876; January, 1877.

³ *International Journal*, March, April, July, 1873; March, May, December, 1874; *Iron Molders' Journal*, December, 1876; July, 1877; January, June, 1878; April, 1880; April, 1882; September, October, December, 1885; February, 1886.

⁴ *Proceedings*, 1886, p. 32.

⁵ *Iron Molders' Journal*, March, May, September, 1887; January, 1888; December, 1892; March, 1894; *Proceedings*, 1889, p. 59.

⁶ *Proceedings*, 1895, p. 75; *Iron Molders' Journal*, June, 1896; February, 1897; December, 1899; *Proceedings*, 1899, pp. 21-30.

strengthened the feeling for a general abolition of piece work, and before the convention met in 1899 an agitation had begun for the adoption of a rule requiring its abolition by a given date.¹

The sentiment in the convention in favor of the abolition of all piece work was strong.² President Fox, though declaring that he favored the ultimate extinction of piece work, urged the convention not to attempt to abolish it abruptly, particularly in the stove-molding branch. Such action, he warned, would cause dissatisfaction among the members in that branch and bring on a conflict with the Stove Founders' National Defense Association.³ The convention ordered a referendum vote on the question of abolishing piece work generally. If the vote was favorable the officers were to promote opposition to piece work among the members and to try to secure its abolition at every conference with the employers. This applied, of course, to the stove branch as well as the others. The vote of the membership was heavily in favor of abolition.⁴

The Molders' representatives at the next conference with the Stove Founders' National Defense Association, in the spring of 1900, requested the representatives of the Founders to urge the abolition upon their members. To this the employers' representatives declined to agree, though they were willing that the union representatives should appear before the convention of the Defense Association and advocate the change.⁵ Since that time no official action from the side of the union looking toward the abolition of piece work in the stove branch has been taken. Under the conference agreement it could be brought about only with the consent of the employers and they are unwilling to consider a proposal to change. The stove molders on the whole, as well as the union officers, are satisfied with the present sys-

¹ Iron Molders' Journal, May, 1899, p. 235.

² Proceedings, 1899, pp. 67, 73, 91.

³ Ibid., p. 12.

⁴ Iron Molders' Journal, March, 1900, p. 151.

⁵ Ibid., April, 1900, pp. 183, 206-7.

tem and with the safeguards provided by the conference agreement.

In the machinery and jobbing branch, the officers and the local unions continued the fight vigorously.¹ In the conferences between the union and the National Founders' Association the representatives of the latter were anxious to secure an agreement that piece work should be allowed in this branch at the option of the employer, but the union refused to agree.² An official of the national union estimates that not more than ten per cent. of the members in foundries of this class are now working under the piece system. The national union will oppose its extension, but where the system is established its abolition is left to the local unions. In agricultural shops, plumbers' supply shops, railroad shops, and other specialty shops, the union does not fight piece work vigorously. The organization is not on the whole as strong in these shops as in the general machinery and jobbing foundries, and in those shops in which it is strong the conditions are more favorable for piece work than in shops of the latter branch.

From its organization the International Association of Machinists has maintained an attitude of hostility towards piece work. The union prohibits the introduction of the system, has fought against it in many places, at one time ordered in convention that members must strike for its abolition before a given date, and yet has not succeeded in eliminating it. The preference of some employers for piece payment on certain kinds of work makes it impossible to force its abolition in their shops without severer struggles than the union is willing to undertake. For the past dozen years the officers of the national union have suggested that the union should accept the piece system where it is generally in vogue and should direct effort to improving the oper-

¹ *Iron Molders' Journal*, April, July, August, 1901; August, December, 1902; March, 1903; 1904, pp. 170, 504; *Proceedings*, 1907, pp. 9, 156, 161; *Constitution*, 1907, Resolutions, no. 28.

² *Iron Molders' Journal*, July, 1900, p. 383; March, 1901, p. 131; *MS. Minutes of Conferences*, October, 1902, April, 1904.

ation of the system and to securing the best possible prices under it for the workers. This policy has not, however, commended itself to the conventions.

Members were early forbidden by the constitution, under penalty of expulsion, to work by the piece except where the piece system was already in operation.¹ This rule was not found satisfactory by the officers of the national union. In 1895 the president suggested to the convention that the piece system should be recognized and controlled by the union inasmuch as it had become established very widely in the trade. He pointed out that it was inconsistent to forbid members to work by the piece in some shops and to allow piece payment in nearby shops in which it had been established before the rule against its introduction was adopted. But the convention adhered to the rule although it was not prepared to inaugurate a concerted movement to force the abolition of the piece system.²

In 1901 the president of the national union reported to the convention that three-fifths of all difficulties with employers in the preceding two years had been over the question of piece work. In that time, he stated, the union had prevented its introduction in 114 shops, affecting 2,800 machinists, whereas in the same time it had been introduced in 49 shops, affecting 3,653 men. He pointed out that one great difficulty was that the men were desirous of working under the system of piece payment and many remained out of the union because of its attitude toward piece work. He recommended that the piece system be accepted in union shops and that it be controlled; he further maintained that the only logical alternative was to forbid piece work to all union members. The two plans were submitted to the convention for choice. The president argued that a general prohibition could not be enforced and the conven-

¹ Constitution, 1891, Constitution of Subordinate Lodges, Art. XX, sec. 2; Machinists' Journal, January, 1893, p. 356.

² Proceedings, 1895. There were occasional strikes for the abolition of piece work or to prevent its introduction in the next few years. See for instance, Machinists' Journal, March, 1896, pp. 46, 71; February, 1900, pp. 101, 104.

tion rejected the plan of regulation, leaving the rule standing as before.¹

Before the next convention there were several strikes against the attempted introduction of piece work, one of these, on a large Western railway system, lasting for eleven months. The officers in 1903 again urged the convention either to adopt a policy of recognition and control or to enforce the prohibition of piece work everywhere, but favored the former course. After much discussion, the convention voted that piece work should be discontinued by July 1, 1904.² In 1904 the membership voted by a large majority not to enforce this rule on account of the depression in the trade.³ Throughout the year 1904 the union was on the defensive in the matter of piece work, and many local unions were forced to fight against its introduction.⁴

The 1905 convention continued the prohibition of the introduction of piece work, but rejected the recommendation of its committee on piece work that a piece-work fund be raised and placed at the disposal of the national officers to be used to fight piece work and kindred systems.⁵ There were many strikes against piece work in 1906 and 1907. One of these, on an Eastern railroad system, involved 1,000 men.⁶ The 1907 convention adopted a resolution urging all local unions to fight piece work vigorously until its abolition was accomplished, but did not recommend a general strike with this aim.⁷ In his report in September, 1908, the

¹ *Machinists' Journal*, July, 1901, pp. 465, 652.

² *Ibid.*, April, p. 225, June, p. 479, 1903; *Proceedings*, 1903, in *Machinists' Journal*, July, 1903, p. 619.

³ *Ibid.*, September, 1904, p. 791.

⁴ *Ibid.*, 1904, *passim*; March, 1905.

⁵ The president had declared in his report to the convention that piece work was increasing and could not be checked without a special fund. (*Proceedings*, 1905, p. 78; *Report of President*, in *Machinists' Journal*, October, 1905).

⁶ *Machinists' Journal*, 1906, pp. 427, 428, 723, 729; 1907, pp. 262, 479, 488. The president of the union stated in the 1907 convention that for two years before this strike was called, the lodges on this system had had the standing approval of the general executive board for a strike against piece work at any time three-fourths of the members on the system would vote for such a strike (*Proceedings*, 1907, pp. 48, 49).

⁷ *Proceedings*, 1907, p. 68.

president of the union again declared that the preference of many of the men for piece work made its abolition difficult for the union. The result of the union's war on piece work, he said, had been to prevent the extension of the system, which would have been rapid if the union had not fought it with energy; but the union had not succeeded in decreasing the number of plants operated under the piece system or the number of men working by the piece.¹ At the present time, the officers of the national union strongly prefer the time to the piece system of payment, but maintain that it would be good policy in plants that cannot be unionized except with recognition of the piece-work system for the union to accept piece work and to make the best of it.²

The Boiler Makers and Iron Ship Builders' Union fought successfully for years for the abolition of piece work in the boiler-making branch of the trade, and finally secured its elimination in the boiler-making shops, including railroad shops.³ In the ship-building branch piece work had always been permitted, except on repair work. But in the 1908 convention the president of the national union declared that piece work was wrong in principle and should not be allowed in any branch. The convention approved of this recommendation and voted that piece work should be abolished in the ship-building branch as soon as possible. The executive board was instructed to investigate each case in which work is done by the piece and to set a date for its abolition.⁴

¹ *Machinists' Journal*, September, 1908, p. 789.

² An official of the national union stated to the writer that not more than six per cent. of the members are now on piece work, although twenty-five per cent. of the men in the trade work by the piece. Piece payment has been almost entirely eliminated in the railroad shops of the South and West, but is not uncommon on the roads of the North and East.

³ Constitution, 1903, Art. XIII, sec. 16. President's Report, 1901, in *Boiler Makers' Journal*, August, 1901; August, 1902, p. 289; July, 1908, pp. 427, 464.

⁴ *Boiler Makers' Journal*, July, 1908, pp. 427, 478, 507-508; Constitution, 1908, Art. XIV, sec. 13. An officer of the national union estimates that but two per cent. of the members are working under the piece system. These are employed in the ship yards. The union has a comparatively small part of its members in ship yards

Members who encourage the introduction of piece work are liable to expulsion.

Two per cent. of the Boiler Makers, six per cent. of the Machinists, ten per cent. of the Blacksmiths, and probably not more than one-third of the Painters and Paperhangers and one-fourth of the members of the other unions in this group work under the piece system. This gives about 49,000 or twenty per cent. of the total number of unionists in this group, under the piece system.

The following table shows the number of unions, the aggregate membership, and the estimated number of piece workers in each of the five groups of unions:

	Number of Unions	Number of Members	Number of Piece Workers
Group I	24	399,500	274,000
Group II	9	110,900	40,000
Group III	58	864,600	
Group IV	{ 8	65,900	50,000
	{ 4	20,100	17,000
Group V	18	246,400	49,000
Total	121	1,707,400	430,000

Summing up the foregoing details, it appears that in ninety-one of the one hundred and twenty-one unions the question of whether remuneration shall be under the piece or the time system is not an issue. These ninety-one unions include approximately 1,375,000 members, or about eighty per cent. of the total membership. Thirty-three of these, with a membership of 510,000,¹ are unions which accept the piece system without objection, and of these thirty-three, twenty-four are predominantly piece-working unions. These have an aggregate membership of 399,500, or approximately twenty-three per cent. of the total membership of the one hundred and twenty-one unions.

The group of predominantly piece-working unions which

at present, but it has had as many as twenty-five per cent. of its members in this branch of the trade.

¹This total includes the stove molders in the Molders' Union. That union, with the remainder of its membership, is entered in the group of predominantly time-working unions who are opposed to piece work.

are opposed to the piece system includes eight unions, with an aggregate membership of 65,900, approximately fourteen per cent. of the aggregate membership of all the predominantly piece-working unions. As has already been noted, the estimated number of piece workers in predominantly piece-working unions opposed to the system, exclusive of the four unions whose officers are opposed, is approximately 50,000. If the latter be included in the total of those opposed to piece work, it may be estimated that fifty-eight per cent. of the piece-workers opposed to the system are in predominantly piece-working unions. Including the four unions mentioned above, 116,000 unionists or about seven per cent. of the total number of unionists are piece workers in unions which oppose the piece system. Without the four unions the piece workers in unions opposed are slightly under six per cent. of the total union membership, or twenty-three per cent. of the total number of piece workers. If the larger figure be taken, there are left in unions which are not opposed to piece work seventy-three per cent. of those working under the piece system. The number of piece workers in all the unions is approximately one-fourth of the total number.

From the standpoint of the number of members the unions in opposition to piece work loom up more strongly than in the number of piece workers included in each. The total membership of the unions entered as opposed to piece work is 332,400, as contrasted with 510,400 in those unions which accept it willingly. The first figure includes, of course, 197,000 time workers in predominantly time-working unions. For a large proportion of these, piece work is not feasible and is not a practical issue. The total for unions not opposed also includes 70,000 time workers in predominantly time-working unions, a large part of whom are also not directly affected by the attitude of their unions toward piece work. The number of those not under the piece system and not directly affected by the attitude of their unions thereto, if the members of the time-working unions for

whom piece work is not now an issue be included, is close to two-thirds of the total union membership under both systems. Finally, it is safe to assume that of those affected by the union attitude toward piece work, exclusive of course of the time-working unions in which it is not an issue, two-thirds are willing to accept it, and nearly one-half are actually working under it without objection.

II

OBJECTIONS TO PIECE WORK

As has already been pointed out a system of piece payment possesses an advantage from the standpoint of the union over time payment, since under the piece system collective bargaining covers wages more fully than in the case of the time system. A union which fixes piece rates is establishing the rates actually paid and not mere minimum rates. Under a piece scale the more efficient members receive wages directly in proportion to their greater efficiency. Such a union rate naturally occupies a more important position in the eyes of the individual workman than a mere minimum rate.

An important corollary of the advantage of securing in the scale, wages in proportion to efficiency is that of insuring that individuals shall not do more work than the average without receiving proportionally more pay. Under the piece system the union avoids the contingency that some members may turn out more work in proportion to the wages they receive than the general run of their fellow workmen. In some time-working unions in which the product is approximately measurable, as, for instance, in the Granite Cutters' Union and the Typographical Union, much concern is expressed over the fact that some men do more than the average amount of work for the minimum rate and that a few do considerably more than the average for a wage which is less than proportionately higher.¹ These

¹ Granite Cutters' Journal, February, 1897; February, 1900; June, 1902, p. 6; June, p. 4, July, p. 4, 1905; Barnett, p. 133.

individual workmen, it is complained, are turning out work at a lower rate per unit than the other members. The tendency where this is allowed to go on, it is argued, is toward an increase in the output required of all for the old daily wage. Under the piece system the union avoids this form of competition without having to resort to the alternative policy of forbidding workmen to exceed the average daily output by more than their wages exceed the minimum. The piece system has a further advantage in widely competitive trades. Inequalities in time rates in different shops or localities within the same competitive area are, to be sure, less likely to lead to reductions or to prevent increases in local wages than inequalities in piece rates. On the other hand, the scale is much more likely to be uniform under a piece system and if it is uniform the union is likely to be able to secure on the average a higher rate of remuneration than under the time system.

The objections to the piece system are of two kinds. In the first place, some unions object to the piece system because of the fact that a satisfactory unit of measurement cannot be devised, or because the piece standard breaks down in some one of the ways indicated in Chapter I. It is noteworthy, however, that relatively few unions reject the piece system for such technical reasons. The important objections urged against the piece system are not connected with its undesirability as a measure of labor, but with the mischievous consequences of its use. It is the effect which the system of payment according to the number of pieces turned out is believed to have upon the general rate of remuneration in terms of output that lies at the root of most of the opposition to piece work. Nearly all of the unions which oppose it do so mainly because they believe that wages will become lower, or at least the output required for the average daily wage higher, under this system of payment than they would be under the time system.

As has been said, there are a few unions which emphasize among their objections to piece work the friction

and loss occasioned by the difficulties in applying piece scales to the work in their trades or the unfairness of attempting to pay by the piece for work which is not physically adapted to piece payment. This objection is logically distinct from the tendency to reductions in wages which is the main ground of objection in most unions to the piece system. The liability to reductions is itself increased, however, by the necessity for frequent pricing of work. The opposition to piece work on this ground will therefore be considered first.

The friction and loss of time involved in operating the piece scale came very early to be felt as a serious objection to piece work in the granite cutting trade. The nature of these difficulties has been described in Chapter I. They appear to have been in this trade as potent a reason for the abolition of piece work as the feeling that piece work tended to produce wage reductions. The secretary of the national union states that piece work would be preferable to time payment if the former could be smoothly and fairly administered. Similar difficulties underlie the opposition of the Shingle Weavers to piece work. In his 1908 report the president in discussing the scales said, "Many deplore the lack of detail and find fault that many cases in the growing complexity of the shingle industry are not provided for." And among the "evils of piece work" he emphasized "the growing difficulties with which we are troubled in trying to adjust a piece work system to these great varieties of conditions and still maintain some degree of equity among our people as well as to maintain an approximately fair equalization among the manufacturers in the cost of production."¹ Among the Leather Workers on Horse Goods also there is complaint that the scales do not standardize the rate of remuneration and time payment is suggested as the remedy.²

The officers of the Ladies' Garment Workers and of the

¹ Report of President, 1908; also *Proceedings*, 1909, p. 56.

² *Leather Workers' Journal*, May, 1904; June, 1907.

Cloth Hat and Cap Workers give a prominent place to the disputes and loss of time accompanying the settlement of prices in their reasons for opposing piece work. In these trades, particularly in the former, the necessity of making almost entirely new scales with each seasonal change of styles is responsible for a great deal of the trouble. In the Ladies' Garment Workers' shops, too, new work is constantly coming up for pricing during the season. According to the president's report to the 1904 convention, "Fashions change with bewildering rapidity and prices must be adjusted almost daily."¹ These are disadvantages in the piece system which naturally impress the officers more than the individual member, whose immediate interests are involved in only a small part of the price disagreements.

In a few other unions, particularly among the Molders, the Blacksmiths, and the Machinists, changes in the physical conditions of production for the same patterns are felt to make the system of piece payment unfair. This objection naturally applies more to those shops in which the nature of the products turned out changes frequently than to those in which the work is a repetition of familiar patterns. In shops of the first character the price is usually set after a brief trial of the pattern and this price holds for the duration of the job. The officers of these unions contend that the material conditions affecting the time required often do not remain standard for the life of the price. As these patterns are not constantly recurring the equalizing effect of the long run is absent. The Molders' officers point out that the equipment deteriorates after a time, that the pattern becomes "sprung," the flask burned, and the sand "burned out," all of which increases the time required to turn out the casting. The Machinists' officers state that material, as, for instance, steel, even though it is supposed to be of uniform quality, is of varying difficulty to cut. The president of the Blacksmiths states that the difficulty of working iron is subject to similar variations. The Molders complain

¹ Proceedings, 1904, p. 12.

that a further source of unfairness in the piece system in many foundries is the liability of non-payment for a casting which has been lost without fault on the molder's part. The employer seldom pays for these unless it can be shown that the molder is clearly not at fault and this is often difficult to prove. On small work this is not such an important factor, but if a molder loses a large casting it makes a considerable difference in his wages for the week.¹

The more important set of objections to piece work center about the stimulus that payment by the piece offers to the workers to increase their output, and the depressing effect of this increased output on the piece rates. These two effects, increased output and lower piece rates, are felt to be reciprocal. The higher earnings from increased output are regarded as leading to reductions in prices, and the reduction of the prices leads the workers again to increase their output in order to recover their former daily or weekly earnings. The final result, it is complained, is that weekly wages are no higher than at first, but a much larger output is required to secure the same wage. Several other objections to piece work often thought of as distinct are really consequences of increased output. It is charged, for instance, that piece work decreases the number of persons employed. But this result is due, of course, to the greater output of those retained. It is charged that piece work exhausts the workers, impairs the quality of workmanship, and promotes specialization. These are also evidently due to the encouragement of output inherent in the piece system and to the increased pressure for output exerted by price reductions. The objection that piece work promotes selfishness and weakens union solidarity rests upon the assumption that the workmen who are induced to increase their output considerably beyond the average thereby injure their fellow workmen by reducing the number employed and by

¹ See statement by the president of the union in the Eleventh Special Report of the Commissioner of Labor, 1904, Regulation and Restriction of Output, p. 150.

bringing price reductions. These several objections will be considered in order.

The contention that payment by the piece leads to lower prices per unit of output than would prevail under the time system involves the two assumptions that piece work stimulates the worker to increase his output and that a reduction in price will follow earnings appreciably above those formerly made on work of similar character. The belief that a worker will do more work under the piece than under the time system appears to be generally held by employers and workmen irrespective of connection with a union.¹ That higher earnings often lead to reductions in the piece rates also admits of no doubt. That reductions will be made under such circumstances is a common expectation among unionists, and this view is widely shared by non-union workmen and employers.² It is easy to see why the introduction of piece work is in many cases followed by reductions in the prices. Employers generally set piece prices at a point which allows the workers to make their previous average wages. If any considerable proportion exceed their previous earnings the employer usually assumes that the rates have been placed too high and proposes a reduction. The reduction, if the workers attempt to regain their wages by increasing their output, leads to an increase in the effort necessary to secure a given weekly or hourly wage. As the result of such reductions the output required for average wages, in the opinion of most of the union members opposed to piece work, is considerably greater than would be required for the same time rate; the greater output of piece workers does not lead permanently to proportionately higher wages.

The belief that piece work lowers the average amount of remuneration per unit of output is by far the weightiest

¹ Eleventh Special Report of the Commissioner of Labor, p. 17; Webb, *Industrial Democracy*, p. 294; Schloss, *Methods of Industrial Remuneration* (3d edition), p. 52.

² See, for example, papers and discussions on methods of payment in *Transactions of American Society of Mechanical Engineers*, Vols. X, XII, XVI, XXIII, XXIV; Webb, p. 292; Schloss, p. 70.

single objection to piece work and the real source of the opposition in most unions. It appears repeatedly in the reports of officers, the resolutions of conventions and in the correspondence from members in the trade union journals.¹ It is significant that some of the unions opposed to piece work will agree without much resistance to work under the piece system if guarantees are given that the prices will not be cut or that the average wages will not be reduced below a fixed amount. In 1903, for instance, one of the national officers of the Molders' Union made an agreement with "members of the National Founders' Association making locks and hardware in Connecticut" that piece work was to be accepted on condition that when a piece price had been established for any job, it should not be reduced during the life of the agreement, unless "improved methods or facilities for molding" were introduced, and that the average wages of all the Molders was not to be less than \$2.75 a day nor the wages of the "average molder" less than \$2.50 a day. The union officer stated that piece work with such guarantees was not particularly objectionable.²

The belief that the larger output of the piece worker reduces the number of workmen employed is wide spread among union members. It is also a belief of long standing. The president of the Iron Molders' Union complained in 1867 that the piece worker does "two days' work in one," and thereby keeps others out of employment.³ In 1876 the president of the same union complained that in the agricul-

¹ See, for example, *International Journal*, January, 1867, p. 308; April, 1873; May, 1874; *Iron Molders' Journal*, July, 1876; January, 1877; March, 1880; September, October, 1885; April, 1886; March, May, 1887; January, 1888; December, 1892; March, 1894; 1899, p. 235; 1903, pp. 26, 648; 1907, p. 894; *Machinists' Journal*, February, 1893; 1906, pp. 246, 726; 1907, p. 967; *Proceedings*, 1907, p. 46; *Granite Cutters' Journal*, August, 1877; January, 1879; April, May, 1886; July, 1893; *Proceedings of Bookbinders*, 1898; *Proceedings of Railway Carmen*, 1907, p. 68; *Report of General President of Laundry Workers*, September, 1908; *Furriers' Journal*, May, 1906; April, October, 1907; April, 1908; *Proceedings of Shingle Weavers*, 1908, p. 25.

² See also *Proceedings of the Car Workers*, October, 1907, p. 17.

³ *International Journal*, July, 1867.

tural branch one molder turned out as much work as two formerly did, and declared that if piece work were abolished there would be an increase of one-third in the number of men employed in that branch.¹ The same argument against piece work has appeared frequently since that time in the *Iron Molders' Journal*.² The Machinists also share this belief. In 1893 the editor of the *Machinists' Journal* declared that the first thing to do in order to secure steady employment for members was to eliminate piece work.³ The president of the Bookbinders urged the 1898 convention to move for the abolition of piece work on the ground that it "causes two men to be employed in doing a task that would require three men."⁴

The charge that the piece system leads the workers to exert themselves more intensely than a proper regard for health and the conservation of strength for a reasonably long working life warrants, is heard more frequently than any other objection to piece work except the contention that it reduces wages. The exhausting effects of piece work are emphasized in those trades in which the work is physically heavy. The president of the Blacksmiths' Union declares that in his trade the physical injury the piece workers do themselves is one of the greatest, if not the greatest evil of piece work. He points out that the nature of the work itself leads the men on to over-exertion even without the stimulus of piece payment, since the workmen are often led on to intense exertion by their anxiety to do

¹ *Iron Molders' Journal*, July, 1876 (*Proceedings of Convention*).

² *Iron Molders' Journal*, January, 1877; June, 1879; September, October, 1885; April, 1886; January, 1888; May, 1899, p. 235; August, 1903, p. 648.

³ *Machinists' Journal*, January, 1893, p. 356; 1897, p. 218.

⁴ *Proceedings*, 1898. See also, *Blacksmiths' Journal*, September, 1903. The president of the Flint Glass Workers referring, in his report to the convention of 1896, to the fact that some members had exceeded the limits established by the union, said "... by increasing the output of each shop one fifth, it is as clear as day that the opportunities of work in that factory were reduced in the same proportion" (*Proceedings*, 1896, p. 58). Schloss (p. 80), referring primarily to British workmen, says that "this belief is in a large measure responsible for the unpopularity of piece work."

all possible with the metal before it loses the proper degree of heat. The exhausting effects of piece work are also emphasized by the Iron Molders. In this trade also, particularly in floor molding, a considerable degree of physical exertion is demanded.¹ The work of the Machinists is as a rule not so heavy, but complaint is frequent of the same injurious effects.² The Granite Cutters also make much of the physical results of "rushing" upon the men. The "rushers" or "rumpers" in this trade are now usually time workers, but "rushing" has occasionally been laid at the door of piece work.³ Sometimes the exhaustion complained of is more nervous than muscular. The secretary of the Amalgamated Glass Workers declares that piece work ruins the nerves of the men; that it is the fear that he will not get out the work rather than the physical strain which affects the workman injuriously. The secretary of the Garment Workers also emphasizes the nervous strain of the piece system, particularly upon the women workers.⁴

The unionists assume that the over-exertion under the piece system is due in most cases to the necessity of reaching an unreasonably large output in order to obtain a reasonably large daily wage. This evil effect is thus due to previous wage reductions. It is often pointed out, to be sure, that the workers who invite reductions by excessive outputs are bringing premature retirement upon themselves as well as price reductions upon themselves and their fellow workmen. But if the high output of the few were not believed to result in wage reductions for all there would be little union objection to piece work on the ground that it allowed a few to injure themselves. It is the exhausting effect upon

¹ Iron Molders' Journal, December, 1885; February, April, 1886; March, 1887; December, 1892; March, 1894; May, 1899, p. 235; 1903, pp. 480, 648; 1907, p. 894.

² Machinists' Journal, 1903, pp. 185, 694; 1907, p. 901. See statement of the president of the Machinists in Eleventh Special Report of Commissioner of Labor, p. 121.

³ Granite Cutters' Journal, April, 1886; June, 1893.

⁴ Schloss (pp. 60 ff.) discusses at some length the effect on the workers of the piece system. The Webbs do not discuss physical strain as a trade union objection to piece work.

the majority which gives the unions real concern, and the over-exertion in the case of the majority is attributed to previous wage reductions rather than to too great eagerness to increase daily wages above a recognizedly fair average.

Two other results are charged in some trades to the pressure for quantity of output exerted by the piece system—poor workmanship and extreme specialization. These results are undesirable in themselves, but they are believed also to tend indirectly toward a reduction in the general rate of remuneration in the trade. That piece work led to poor workmanship was one of the complaints against it among the Granite Cutters.¹ The secretary of the Travelers' Goods and Leather Novelty Workers and the Shingle Weavers also regard poor workmanship as one of the evils of piece work.² The influence exerted toward specialization is a ground of objection to piece work particularly in those unions which are fighting the system, as for instance, the Blacksmiths and Machinists.³

Finally, the opposition to piece work by union men is due in considerable measure to the feeling that it militates against the strength of unionism by encouraging men to seek self-advancement at the expense of their fellow-workmen. As has been pointed out, this belief assumes that those who push their output above the average are bringing about price reductions for all employed on that kind of work and depriving some of employment. This belief appears among the objections urged against piece work in a number of unions.⁴ It is complained also that where there is a difference in the desirability of the work to be done,

¹ Granite Cutters' Journal, April, 1886; June, 1893.

² Proceedings, 1908, p. 25.

³ Machinists' Journal, June, 1894, p. 212; January, 1907, p. 12; Proceedings, 1907, p. 100. See also Proceedings of the Bookbinders, 1896.

⁴ International Journal, January, 1867; Iron Molders' Journal, June, 1879; March, 1880; April, 1886; 1903, pp. 480, 648; Machinists' Journal, August, 1903, p. 694; October, 1907, p. 967; Boilermakers' Journal, July, 1908, p. 427; Blacksmiths' Journal, January, 1903; Furriers' Journal, April, 1907; Proceedings of the Shingle Weavers, 1908, p. 25; Proceedings of the Bookbinders, 1898.

the solidarity of the men may be further weakened by favoritism in the assignment of work. The secretary of the Granite Cutters states that favoritism in the distribution of the stones was an objectionable feature in the administration of the piece system in his trade.¹

The belief that union experience has shown* that piece work leads to low wages and general union demoralization has influenced some of the union officers who have recently urged their organizations to take steps looking towards its abolition. The president of the Shirt, Waist and Laundry Workers in advising his union in 1908 that the time had come to do away with piece work declared that "the most progressive organizations in the history of organized labor have discarded the piece-work system and are now working on the weekly or daily wage system."² The president of the Ladies' Garment Workers said in his report to the 1903 convention: "Regulation and control of a trade in which the piece system prevails is almost inconceivable. The most powerful labor organizations in America are in those trades in which the payment by weekly wages predominates."³ The general secretary of the Tailors in appealing to his union in 1905 to abolish piece work also declared that union experience had condemned piece work. "The history of the labor movement and of the industrial world has demonstrated clearly that long hours are almost the universal concomitant of piece work, and it equally shows that long hours are accompanied by low wages."⁴

¹ The possibility of discrimination against piece workers when both piece and time workers were employed on the same job had considerable influence in determining the Granite Cutters to declare for the total abolition of piece work. Complaints were made that in giving out work the piece men were kept waiting until the time men had been started, that the easiest stones and those paying best according to the piece bill were done under the time system, and that the piece men were required to finish their stones more carefully (*Granite Cutters' Journal*, March, 1879; August, 1882, April, October, 1886; September, 1891; December, 1900). The New York bill of prices of 1890 and many other bills contained clauses prohibiting discriminations of this character.

² Report of President, September, 1908.

³ Proceedings, 1903, p. 9; Proceedings, 1906, p. 11.

⁴ The Tailor, February, 1905, p. 3.

It is this belief that piece work leads to price reductions, exhaustion of the workers, and reduction of the number employed, and that these effects are traceable to excessive output, which accounts for the tendency so often exhibited by piece workers to adopt limits to their earnings or output. This tendency has appeared among unions which accept piece work willingly as well as among those which oppose it. The Amalgamated Association of Iron, Steel and Tin Workers, the Flint Glass Workers,¹ and the Window Glass Workers for years maintained limits of output in their national scales, and the scales of the Window Glass Workers and of some branches of the Flint Glass Workers still provide such limits. The purpose of these regulations is and has been to prevent such increases in output as would lead to price reductions, discharge of persons employed, and exhaustion of the workers.² Where the limits have been abandoned, it has been because the unions have been unable to maintain them on account of the opposition of the employers and the competition of non-union workers.

The adoption of national limits has been advocated in the conventions of other piece-working unions. There was such an agitation among the Glass Bottle Blowers for years, culminating in the adoption by the 1894 convention of limits for the following blast.³ But these were not enforced and were not renewed.⁴ The president of the national union in a circular issued in 1891 warned the members of the danger to prices and to the members' health in "the big day's work." He did not, however, favor the adoption of limits, but rather the education of the members and the fostering

¹ For a description of the prevailing system of limits among the Flint Glass Workers, see above, p. 69.

² *Vulcan Record*, I, p. 52; Proceedings of Amalgamated Association of Iron, Steel and Tin Workers, 1877, pp. 53-4; Proceedings, 1883, pp. 1027, 1115; Proceedings, 1887, p. 1230; Proceedings, 1905, p. 7221; Proceedings of Flint Glass Workers, 1896, p. 58; Proceedings, 1905; Proceedings, 1906; Proceedings, 1907.

³ Proceedings, 1892, pp. 21, 133; Proceedings, 1894, pp. 47, 87-90.

⁴ Proceedings, 1895, pp. 27, 34, 73-8; Proceedings, 1896, pp. 29, 69. The opposition of the president of the union to the policy of limitation was undoubtedly an important element.

of an "understanding among ourselves not to go beyond what is reasonable."¹ The preamble of the resolution limiting earnings which was adopted by the 1894 convention recited that the limits were intended to check excessive output, which was injurious to the individual, harmful to the trade, and resulted in keeping deserving men in idleness.²

In the Molders' Union much was heard of limits during the years of opposition to piece work in the stove branch. Limits were, in fact, maintained by local unions or by shop crews in many places, and the question of a national limit on the earnings of piece workers was before the national union as early as 1873.³ The convention of 1886 did adopt a limit of \$3.50 a day for piece workers but left the penalty for violations to the local unions.⁴ The rule was not uniformly enforced and the 1888 convention repealed it as impracticable, leaving each local union to set its own limit and punish violations as it saw fit.⁵ The agitation for a rule of national scope was renewed from time to time.⁶ The question was before the national convention in 1895 but no action was taken.⁷ A circular advocating a wage limit was sent out by a local union in 1899, but this was vigorously opposed in the columns of the official journal. This opposition reflected the attitude of the national officers at that time toward piece work and toward limits in the stove branch.⁸ In the spring of 1902 the Molders officially agreed with the Defense Association that no limits should be observed in the stove-molding branch, in view of the agree-

¹ Proceedings, 1892, p. 21.

² Proceedings, 1894, p. 90.

³ International Journal, 1873, p. 196; 1874, pp. 276, 354; Iron Molders' Journal, 1875, p. 392; December, 1885; January, February, March, October, 1886.

⁴ Proceedings, 1886, p. 32.

⁵ Proceedings, 1888, pp. 65, 78.

⁶ Iron Molders' Journal, May, 1890; August, 1894; April, June, 1895.

⁷ Proceedings, 1895, pp. 64-87.

⁸ Iron Molders' Journal, 1899, pp. 235, 278, 303, 363.

ment that the earnings of the individual molders should not be considered in adjusting prices of work.¹

Local limits have prevailed for years among the Hatters in spite of the opposition of the national union to the policy.² Local or shop limits are observed also by the Pen and Pocket Knife Grinders, the Table Knife Grinders, the Leather Workers, the Brick Makers, the Broom Makers, and the Stove Mounters, where the local unions do not have agreements with the employers similar to that of the stove molders with the Defense Association.³ Limits are also maintained but usually less openly by local unions of those piece-working unions which are opposed to the piece system. An understanding that certain limits of earnings shall be observed is also common in non-union piece-working shops; and many employers expect as a matter of course that their piece workers will observe such limits.⁴

III

ACCEPTABLE CONDITIONS FOR PIECE WORK

Obviously the unions which accept piece work willingly have not found that it produces the injurious effects attributed to it by the unions which oppose it. If these unions

¹ Clause 17 of the Conference Agreement then adopted reads as follows: "Inasmuch as it is conceded by the members of the Stove Founders' National Defense Association that the earnings of a molder should exercise no influence upon the molding price of work, which is set, according to well-established precedent and rule of conference agreements, by comparison with other work of a like kind, the placing of a limit upon the earnings of a molder in the seven hours of molding should be discountenanced in shops of members of the S.F.N.D.A." In his report to the convention of the union a few months later, President Fox took a definite stand against limits, save as a refuge against arbitrary exactions (Proceedings, 1902, p. 621).

² Journal of the United Hatters, March, September, 1899; Proceedings, 1900, p. 337.

³ Attempts have been made, so far unsuccessfully, to introduce national limits in some branches of the Potters' trade in order to prevent poor workmanship. These have the encouragement of the employers (Proceedings, 1905; Proceedings, 1906; Proceedings, 1907).

⁴ See, for example, papers and discussions on systems of payment in Transactions of American Society of Mechanical Engineers, Vols. X, XII, XVI.

believed that piece work resulted in an appreciably lower rate of remuneration per unit of output than would be received under the time system they would prefer the latter. The advantages of the piece rate as a means of securing a better adjustment of pay to effort would be more than offset by the disadvantage of a constant, effective, downward pressure upon the wage per unit of product. The decisive factor in the determination of a union's attitude toward the piece system is the extent to which the piece system is believed to be accompanied by reductions in prices. In a few instances the piece system is accepted because the time system is believed to give the worker less protection against speeding rather than because prices are not reduced under the piece system; but for the most part the question of acceptance or opposition to piece work turns on whether prices are reduced. This is, of course, a matter of experience for each particular union.

The explanation of the fact that some unions are unable to avoid what they consider unjustifiable price reductions under the piece system whereas other unions which work under it do not suffer such reductions is not to be found merely in differences in the comparative strength of the unions. Some of the predominantly time-working unions which are opposed to piece work are counted among the strongest American unions. They may be weak in many of the shops in which piece work prevails, because their members may avoid those shops when work can be obtained elsewhere; but piece work is opposed also in these unions in shops in which nearly all the workers are union members and in which the union shop committee is recognized in setting prices. Nor will the protection afforded by limits complete the explanation. Many unions which accept piece work willingly now have no scale limits, whereas in many which oppose it attempts are made to secure the observance of shop limits. The difference in the effect of piece rates on wages appears to be due, in large part at least, to the conditions, aside from mere union strength, under which

the prices are established and may be revised. And differences in these conditions are in considerable measure traceable to differences in the character of the product to which the piece system is applied.

One very important condition affecting the liability to reduction is the area over which the scale is uniform. It is to be noted that over half of the piece-working unions which accept the system willingly have national or competitive district scale systems, and that no predominantly piece-working union with such a scale is now opposing the piece system for the work covered by it.¹ Several other unions in this group have uniform local scales. Only a few of the unions in it have separate shop lists which are not bound together in some wider system of equalization. On the other hand, the bulk of the piece work done by men opposed to the piece system is done under shop lists. This is true particularly of the strong unions opposing the piece system.

Where piece prices are established in a national scale or a scale applying over the field of recognized competition, the conditions are most favorable for keeping the system free from progressive price reductions. The union is able in this kind of a wage bargain to marshal its full strength, or a larger part of it than could be enlisted in support of purely local prices, for each particular item in the scale. The employers, on the other hand, are less likely to press for reductions of particular prices once established, and this for two reasons. First, because the individual employer is not impelled to insist on reductions in labor cost in order to avoid the danger of paying more than his competitors or to obtain an advantage over them, and second, because the presumption is much stronger against the contention that a particular price in the scale gives earnings considerably above the intended scale average. The bulk of the work for which national or district scales are adopted in any year is

¹The Shingle Weavers is the only union with a sectional piece scale opposing piece work, and it is a predominantly time-working union. Moreover, one of its important objections to piece work is the difficulty of applying the piece system to its work.

made up of patterns long familiar to the trade. The prices to be agreed upon are mostly those to be paid for this familiar work. The presumption is against the granting of a request that any one price or a few particular prices of long standing should be reduced because of the high earnings made under them. They have come to be accepted as standard and probably the workers have adjusted their speed to them.

The method of setting the new piece prices also shuts off to a large extent demands for reductions at the next scale revision. The new work, as explained in Chapter I, is in many cases priced by the application of physical standards, and reductions can ordinarily be demanded only on the ground that a mistake was made in classifying the pattern. Where the work cannot be automatically rated in this way, it has usually been made for a short time at least before it is priced by the national committees, and the care with which national prices are fixed tends to prevent such work being entered at prices which gives earnings considerably in excess of the scale average for the same intensity of exertion. The price reductions insistently demanded in national wage conferences are general or uniform percentage reductions from all prices, rather than in particular prices on the ground of high earnings on these pieces. When high earnings are used as an argument for price reductions it is usually in support of a request for a general reduction made primarily on some other ground, as, for instance, non-union competition.

These safeguards against price reductions on account of high earnings under specific prices are present to a less degree, but still to an important degree, where the piece scale is set for several shops in the same locality. If competition in the manufacture of the product is largely local and if the new kinds of work each year form but a small proportion of the total, the conditions are favorable. If competition is appreciably inter-city, reductions in prices or the failure to increase them is likely to be attributed to low prices in other

localities and the remedy is likely to be sought in widening the area of scale uniformity rather than in abolishing piece work. This is the tendency, for instance, among the pants and vest-making branches of the Garment Workers' Union, and to a less extent among the Cigar Makers. No strong predominantly piece-working union, and few predominantly time-working unions, which have had uniform local piece scales for any considerable time are actively opposing the piece system on such work.

When we come to the work done under independent shop lists we find the way to price reductions much more open. The incentive to the employer to secure reductions is greater, and the union is bargaining for fewer members. Moreover, the prices are fixed less carefully in the first instance, as the employer is not made cautious by the knowledge that he will have to demand reductions from a joint body of other employers and representatives of a much wider union constituency which will be affected by these reductions. The new work is likely to be in much greater proportion, and there is less likelihood of the presence of recognized standards as to the skill and effort which should be required for the average rate of wages. It is the absence of such standards which is in largest measure responsible for the tendency toward reductions under shop lists as the output is increased.

The conditions surrounding the fixing of piece prices are at their worst from the union standpoint when the system is applied to work of which the bulk cannot be reduced to a regular itemized scale in advance,¹ but must be priced as

¹ The fixing of prices even under these conditions is not individual bargaining or "sub-contracting." The prices are fixed, or are at least subject to ratification, by a shop committee which represents the union, not determined finally by the employer or foreman and the workman or workmen who are to make the particular pattern. The Webbs (*Industrial Democracy*, pp. 291 ff.) argue that it is chiefly because piece work generally means the setting of prices under conditions of "individual bargaining," that it is opposed by the British trade unions. A great deal of piece work is done by American unions opposed to the piece system which is done under shop scales or at least under shop prices agreed to by a shop committee.

it appears. The shop committee is usually bargaining in these cases for a few men and is guided only by an estimate of the time required, arrived at after a brief trial of the work. Although the shop committee is likely to resist reductions with more tenacity than it shows in fixing prices at the outset, the general rate of remuneration in terms of exertion is more liable to reduction under these conditions than where a regular scale is adopted periodically for the bulk of the work.

The character of the product plays a large part of course in the determination of the conditions under which prices are established and revised. It affects the proportion of new work in the scale, and the extent over which the scale may be made uniform is limited by it in considerable degree. In some unions the scales have not been made as uniform as is physically feasible; independent shop scales often indicate union weakness rather than physical difficulties in the way of wider uniformity. Some predominantly time-working unions, too, having adopted the policy of opposition to piece work, bend their energies toward its abolition rather than to securing more uniformly applicable piece scales for such of the work as would allow it. These cases aside, however, the physical character of product and processes remains a very important determinant of the area over which the same scale is applicable and consequently of the degree to which the unions experience progressive price reductions under the piece system.

In some unions other conditions than the physical nature of the work and the extent over which the scale is uniform count appreciably in protecting the workers against price reductions. The Boot and Shoe Workers generally prefer the piece system and many of their price lists are independent shop lists. Their label contracts usually provide that all differences as to prices or wages are to be subjected to arbitration. This operates to counteract unjustifiable reductions. The Stove Molders are, of course, protected by their agreement with the Defense Association that prices

shall be set and maintained in accordance with those already established in the district without reference to the earnings of the molder. The Mine Workers' prices are established in accordance with a competitive district scheme which eliminates the question of earnings on all work but that which on account of abnormally difficult conditions must be priced locally. Even here it is the proportional time required rather than the actual earnings of the individual which is the direct determinant. In the case both of the Stove Molders and of the Miners the protection to prices once established and the maintenance of the established general rate of remuneration in fixing new prices is due to the adoption of the competitive district as the unit in price adjustment. Such guarantees would probably not have been secured if prices in each foundry or mine were fixed independently.

In some unions the piece system seems to be preferred rather because of the greater liability to forced output under the time system than because of the feeling of security against reductions of prices under the piece system. The preference of the Textile Workers for the piece system is accounted for partly on this ground. The output of machine operatives in this union depends, skill being equal, upon the speed of the machinery, over which the operative has no control. If piece prices remain unchanged and the speed of the machinery be increased the earnings of the operatives are increased. If payment is by the hour or day the operative is obliged to exercise greater care and skill to prevent breaks but receives no greater wage. The Webbs assign this as the chief reason for the preference of the British textile unions for piece work.¹ The secretary of the American union states that it is an important consideration here also. It is not nearly so important as in England, however, as the American textile workers, except the Mule Spinners, have in many places no standard price per pick or other unit of output, as the British unions have,

¹ *Industrial Democracy*, p. 288.

securing them an increase in wages automatically with increased speed of the machinery. The American employers look to weekly earnings in fixing prices and there is in most places no assurance that the increased output will not result in reduced prices per hank for spinning or per yard for weaving.

The fear of greater "speeding up" for no greater or even less wages under the time system also accounts largely for a preference for piece work on the part of a considerable minority, if not indeed a majority, of the union members in the garment trades. It explains partly the weakening of the feeling against piece work among the United Garment Workers. The members fear that if piece work were given up they would be "speeded up" under the time system by the insistence of the employers on excessive "tasks" for the daily wage or on work in "teams." Under the "team system" each member must turn out his special part of the garment as rapidly as the other members turn out their parts, so that all must keep up with the pace set by the leader. The union men complain that the leader receives higher wages in return for maintaining a rapid pace for the other members of the team who receive only the average or minimum rate.¹

¹ The Amalgamated Association of Iron, Steel and Tin Workers imposed limits on the output of the day hands on the sheet mill who were employed by a roller and with other members of a crew receiving piece rates, in order to prevent their output being increased without commensurate increase in pay. The national officers favored for years putting them on a piece basis. It has always been the policy of this union to bring all men possible under the tonnage system to prevent the day workers being "speeded up" without proportional increase in pay (Proceedings, 1884, p. 1320; Proceedings, 1886, p. 1834; Proceedings, 1887, pp. 1917, 1948, 1950; Proceedings, 1888, pp. 2307, 2326-8; Proceedings, 1890, p. 2897; Proceedings, 1899, p. 5586; Proceedings, 1900, pp. 5741, 5909; Proceedings, 1902, p. 6441; Proceedings, 1903, p. 6701). The Webbs state that the British coal miners' unions insist on piece work for helpers of piece workers for the same reason (*Industrial Democracy*, p. 290). The United Mine Workers are opposed to the system of employing helpers at time rates which prevails to a large extent in the anthracite fields.

APPENDIX A

CALCULATION OF OUTPUT IN MULE SPINNING

The number of yards which will be spun in a given time is generally calculated from the number of "stretches" per minute. The "stretch" is the outward trip of the movable carriage which carries the spindles, or the distance which is thus travelled. The twist is put in by the revolution of the spindles during the time occupied by the outward run of the carriage; or during this time and a brief interval that the carriage is stopped before the backward trip is begun. The number of stretches per minute must be adjusted to the number of turns of twist to be put in—the higher the number of turns of twist the longer the time which must be allowed for twisting, and the less the number of stretches per minute. The number of yards which will be spun per spindle in an hour will be 60 multiplied by the number of inches in the stretch by the number of stretches per minute, divided by 36. The number of stretches will thus vary with the number to be spun. On number 36 with a 64 inch stretch, the stretches per minute will be, say 5.125 and the output per spindle per day of ten hours 5.85 hanks, whereas on number 60 the stretches per minute will be about 4.125, and the output per spindle 4.70 hanks.

The variation in the number of stretches per minute does not bear an exact or uniformly assumed ratio to the number of turns of twist. Some mills may be found running at fractionally different numbers of stretches per minute from others on the same numbers. On the whole, however, the output to be expected under average conditions can be fairly well calculated in advance. In a catalogue published by the Mason Machine Works of Taunton, Mass., a table of the production which may be expected is given for numbers from 6 to 78 for a mule with a 64 inch stretch. On number

36 the stretches per minute are 5.125 and the output per spindle in a 60 hour week, with allowance for cleaning and doffing, is .97 pound; on number 60 the stretches per minute are 4.125 and the weekly output .47. Under the union price list for New Bedford (1908) these outputs per spindle for a pair of mules carrying 1,800 spindles would give \$25.02 per week for number 36 and \$24.92 on number 60. The spinners' actual earnings would be considerably less than that, as further allowance must be made for stopping, and the spinner has to pay the "back boy" from \$3.00 to \$4.00 per week from his list prices.

The English trade agreements which provide prices for mule spinning are based upon similar factors. The English practice is, however, to give in the scale the price under certain conditions for a given number, and the data for calculating the changes to be made in that with specific variations in number or conditions. Under the Oldham spinning list, for instance, prices are derived from that for a "standard operation." This is the "spinning of cotton yarn by a self-actor mule, making three draws (stretches) of 63 inches in 50 seconds; all variations from this standard, whether in length of drawing or in number of draws per second are provided for by a scale showing the corresponding variation in piece-price, while a special list of extras, payable if the conditions be otherwise than those contemplated as normal, is included." The number of draws per second is affected of course by the number of the yarn to be spun. Under the Bolton list payment is by weight, and here again the price actually to be paid is calculated by applying specific differentials to a standard price for a given number of turns of twist per inch for mules with a given number of spindles (Report of Standard Piece Rates of Wages and Sliding Scales in the United Kingdom, 1900. Board of Trade (Labor Department), pp. xvii, ff.).

APPENDIX B

PREMIUM AND BONUS SYSTEMS OF PAYMENT

It is very difficult to distinguish between the premium and the bonus systems of remuneration, for the two names are used almost indiscriminately. The term "bonus" is, however, more frequently applied at the present time to any contingent payment, and any plan under which such payments are offered is likely to be called a "bonus" plan or system.

The first examples of such plans were, however, known as premium plans. Under them the extra payment or premium was generally a fixed proportion, usually a half and almost never more than a half, of what the workers' regular wages would be for the number of hours or minutes by which he reduced the time formerly taken on an average to turn out a given amount of work. The essentials of the system were set forth by Mr. F. A. Halsey,¹ with whose name the premium system is most closely associated, in a paper read before the American Society of Mechanical Engineers in 1891 and printed in the Transactions of that Society for that year, Volume 12, pp. 755 et seq. The paper, but not the discussion of it, is reprinted in the Economic Studies of the American Economic Association, Volume I (1896), Number 2.

"The essential principle is . . . as follows: The time required to do a given piece of work is determined from previous experience, and the workman, in addition to his usual daily wages, is offered a premium for every hour by which

¹ Systems of payment involving the essential features of the "premium plan," that is, extra payments for time saved at rates below the regular rate for that time, had been occasionally used in the metal trades before Mr. Halsey's plan was proposed. Some of these were referred to as "bonus" plans (Transactions, Vol. 8, p. 469; Vol. 10, p. 622; Vol. 12, p. 767).

he reduces that time on future work, the amount of the premium being less than his rate of wages. Making the hourly premiums less than the hourly wages is the foundation stone on which rest all the merits of the system, since by it if an hour is saved on a given product the cost of the work is less and the earnings of the workman are greater than if the hour is not saved, the workman being in effect paid for saving time.

"Assume a case in detail: Under the old plan a piece of work requires ten hours for its production, and the wages paid is thirty cents per hour. Under the new plan a premium of ten cents is offered the workman for each hour which he saves over the ten previously required. If the time be reduced successively to five hours the results will be as follows:

Time Consumed Hours	Wages per Piece	Premium	Total Cost of Work Col. 2 + Col. 3	Workman's Earn- ings per Hour Col. 4 ÷ Col. 1
10	\$3.00	0	\$3.00	\$.30
9	2.70	.10	2.80	.311
8	2.40	.20	2.60	.325
7	2.10	.30	2.40	.343
6	1.80	.40	2.20	.366
5	1.50	.50	2.00	.40

The amount of the premium, according to Mr. Halsey, should vary with the degree to which the extra output requires an increased exertion on the part of the worker. In 1895 he said, "The only system which will endure is the one which pays the least possible per piece of product. The purpose of these systems is not, primarily, to pay higher wages but to produce cheap work, the adjustment sought being one which shall give the workman an increased wage per day in return for the decreased cost per piece of product."¹

The more recently advocated systems, to which the term "bonus" has usually been applied, seem to have as their essential aim the reaching of a specific output considerably

¹Transactions of the American Society of Mechanical Engineers, Vol. 16, p. 885.

higher than the previous average. Mr. F. W. Taylor described a system of remuneration before the American Society of Mechanical Engineers in 1895, which he called a "differential rate system of piece work," in which the central aim was to secure "the largest amount of work of a certain kind that can be done in a day." A rising rate per piece as the output increased toward the maximum was the stimulus offered the worker in the scheme of payment.¹ Mr. Taylor insisted then and later that the central point in his system was the ascertainment through a determination of "unit times," that is, the shortest time in which each separate operation can be performed, of the maximum output which can be expected in a given time from good workmen working at the highest rate of speed which can be regularly maintained. His differential rate system of payment was intended as an inducement to the men to maintain that rate of output after it had been ascertained.²

In 1895, in reply to a criticism that the rise in the rate as the output approaches the maximum results in a higher labor cost per piece for the enlarged output than would be the case under an ordinary piece system, Mr. Taylor said, "On the contrary, with the differential rate the price will, in nine cases out of ten, be much lower than would be paid per piece either under an ordinary piece-work plan or on day's work. An illustration of this fact can be seen by referring to paragraphs 78 to 83 of the paper, in which it will be found that a piece of work for which the workmen had received for years, under the ordinary piece-work system, 50 cents per piece, was done under my system for 35 cents per piece, while in this case the workmen earned \$3.50 per day, when they had formerly made under the fifty cent rate only \$2.25 per day.³ . . . It is quite true that under the

¹ This paper is also reprinted in the *Economic Studies*, Volume I, No. 2 (Transactions of the American Society of Mechanical Engineers, Vol. 16, pp. 856-903).

² Transactions, Vol. 16, pp. 875, 903; Vol. 24, pp. 1337-8.

³ In the case referred to the original output was 4 to 5 a day; the maximum was set at 10, and when 10 were produced in a day 35 cents per piece was paid; when less than 10 were turned out in a day less per piece was paid.

differential rate the workmen earn higher wages than under other systems, but it is not that they get a higher price per piece, but because they work much harder, since they feel that they can let themselves out to the fullest extent, without danger of going against their own interests."¹

In 1901 Mr. H. L. Gantt presented to the same society a paper describing a "Bonus System of Rewarding Labor, Being a System of Task Work with Instruction Cards and a Bonus." Under his plan of payment the specified task is made the worker's goal and if he fails to reach it he receives no bonus. "If the man follows his instructions, and accomplishes all the work laid out for him as constituting his proper task for the day he is paid a definite bonus in addition to the day rate which he always gets. If, however, at the end of the day, he has failed to accomplish all of the work laid out he does not get his bonus but simply his day rate. . . . This system is so far as the writer is aware, a new one, but it is based on the principles of Mr. Fred. W. Taylor's system of elementary rate fixing."²

Mr. Harrington Emerson describes a system of bonus payment in the *Engineering Magazine* for February, 1909, which is based on a system of "standard time determination." A "standard time" is established, which is considered the minimum time in which the given output can be reached by the use of the best methods. The worker who turns out the work in the "standard" time is said to have an "efficiency of one hundred per cent." The workman receives a fixed sum and in addition receives as a bonus a percentage of his regular rate which increases more than proportionally with each per cent. of efficiency attained above sixty-seven per cent. At eighty per cent. efficiency, for instance, the bonus is 3.27 per cent.; at ninety per cent., 9.91 per cent.; at ninety-five per cent., 14.53 per cent., and at 100 per cent. efficiency, it is 20 per cent. If the workman increases the output above the "standard" the bonus

¹ Transactions, Vol. 16, pp. 887 et seq.

² Ibid., Vol. 23, pp. 341-372; Vol. 24, p. 1322; Vol. 30, p. 1042.

increases one per cent. for each added percentage of efficiency above 100 per cent.; at $133\frac{1}{3}$ per cent. efficiency, for example, the bonus would be $53\frac{1}{3}$ per cent.

The average output before the introduction of the system is considered as 67 per cent. efficiency. A worker who reaches 100 per cent. efficiency must turn out 50 per cent. more output in a given time than before. Assume, for example, that workmen with a wage rate of 40 cents an hour have been turning out on an average 6 units of a given article in 6 hours. The new "standard time" for 6 units is set at 4 hours. One and a half units of output is now said to be a "standard hour." If the worker turns out 6 units in 6 hours, as before, he has made but 4 standard hours in 6 hours of working time and his efficiency is but 67 per cent. Therefore, he receives simply his hourly rate of 40 cents and no bonus. If he turns out the 6 units in 5 hours he has made 4 standard hours in 5 hours of working time and his efficiency is 80 per cent. He will now receive his regular rate of 40 cents an hour for the five hours worked and a bonus of .0327 per cent. of that sum, a total of \$2.07, or 41.4 cents an hour. If he does the work in standard time and turns out the 6 units in 4 hours he has made 4 standard hours in 4 hours of working time and receives his regular rate for the latter, \$1.60, plus 20 per cent. of that as a bonus, a total of \$1.92, or 48 cents per hour. If he should be able to reduce the standard time to such an extent that he halves his previous time for the 6 units, he makes 4 standard hours in 3 working hours and his efficiency is $133\frac{1}{3}$ per cent. He would then receive pay at his regular rate for the 3 hours, \$1.20, plus a bonus of $53\frac{1}{3}$ per cent. of that, a total of \$1.84 or $61\frac{1}{3}$ cents an hour.

The labor cost to the employer, or the price per piece received by the worker decreases, of course, as the output increases. At the old output, or 67 per cent. efficiency, the rate per unit is 40 cents; at 80 per cent. efficiency it is 34.5 cents, at 100 per cent., 32 cents, and at $133\frac{1}{3}$ per cent., $30\frac{2}{3}$ cents.

These plans for bonus payment are frankly intended to stimulate the worker to increased effort. Mr. Taylor, Mr. Gantt, Mr. Emerson, and Mr. Halsey all assume that most workers could considerably increase their outputs under present methods without over-exertion. Mr. Taylor said in 1903, in advocating his system of work and payment, "That there is a difference between the average and the first class man is known to all employers, but that the first class man can do in most cases from two to four times as much as is done on an average is known to but few, and is fully realized only by those who have made a thorough and scientific study of the possibilities of men. . . . It must be distinctly understood that in referring to the possibilities of a first class man the writer does not mean what he can do when on a spurt or when he is over-exerting himself, but what a good man can keep up for a long term of years without injury to his health and become happier and thrive under."¹ It appears from other statements of this writer that the difference between what the first class man can do and what the average man does, lies largely, in his opinion, in differences in intensity of effort.² Mr. Taylor does, however, lay great stress upon the necessity of selecting the men who are to be asked to work under his plan.

Mr. Gantt says that for a "fixed daily wage" the ordinary workman "will seldom do more than a fraction of the work he can do."³ Mr. Emerson, in describing his own efficiency system, quotes Mr. Taylor's views with approval and proceeds on the same assumption that the worker, if he will, can greatly increase his output without injury to himself.⁴ In his first paper, in 1891, Mr. Halsey, speaking of the day-work plan, said, "He (the workman) has consequently no inducement to exert himself and does not exert himself." In the same paper, he said, "In certain classes of work an increase in production is accompanied with a

¹ Transactions, Vol. 24, p. 1345.

² Ibid., Vol. 24, p. 1350; Vol. 16, pp. 864, 878.

³ Ibid., Vol. 24, p. 267.

⁴ Engineering Magazine, May, 1908.

proportionate increase of muscular exertion, and if the work is already laborious, a liberal premium will be required to produce results. In other classes of work increased production requires only increased attention to speeds and feeds with an increase of manual dexterity and an avoidance of lost time. In such cases a more moderate premium will suffice."¹ The same views are reaffirmed by Mr. Halsey in an article in the *American Machinist*, March, 1899.

Mr. Gantt and Mr. Emerson both emphasize particularly that the increased outputs are to come in large part from improvements in the methods followed by the workman in performing his tasks. The payment of bonuses is advocated not only as a means of calling out additional exertion on the part of the worker but as an inducement to the workman to follow instructions and to coöperate in the introduction of methods which increase output with only a fractional increase in exertion on his part. Their systems are rather "efficiency" systems than mere schemes of payment; the bonus plans of payment are followed only as a part of the general scheme for increasing the efficiency of the working force and thereby reducing the labor cost of production.²

¹ Transactions, Vol. 12, p. 760.

² Transactions, Vol. 23, p. 341; Vol. 30, p. 1063; *Engineering Magazine*, May, 1908-February, 1909, *passim*.

INDEX

- Actors' National Protective Union, 190.
- Aged members, 105.
- Albany, Cigar Makers of, 127.
- American Economic Association Quarterly, 30 (note);
- American Economic Association Studies, 235, 237 (note).
- American Machinist, 241.
- American Society of Mechanical Engineers, 217 (note), 225 (note), 235-238, 240 (note), 241 (note).
- American Tin Plate Company, 149 (note).
- Apprenticeship and time minimum rate, 103, 104, 115.
- Area of rate, 16, 120-184, 227-230.
- Arkansas, Coal Miners of, 134, 135.
- Arrington, President, 156 (note).
- Asbestos Workers, see Heat, Frost, General Insulators and Asbestos Workers.
- Auburn, N. Y., Cigar Makers of, 127.
- "Average" rate, 80.
- Bakery and Confectionery Workers' International Union, 86 (note), 87, 190, 191 (note).
- Baltimore, Cigar Makers of, 32 (note), 54, 61, 125; Coat Makers of, 77; Pants Makers of, 124 (note); Steam Fitters of, 164.
- Barbers, International Union of, Journeymen, 106, 190.
- Barnett, G. E., (notes) 30, 31, 59, 69, 78, 102, 112, 125, 173, 182, 189, 212.
- Barre, Vt., Granite Cutters of, 80-81, 177 (note).
- "Basic" rate, time, 80, 102, 107 (note).
- Basic rate, tonnage, in coal mining, 134-136.
- Bill Posters and Billers, National Alliance of, 172, 190.
- Birmingham, Ala., Iron and Steel Workers' scales in, 131.
- Blacksmiths and Helpers, International Brotherhood of, 86, 88, 107, 112, 118, 165, 169, 170, 199, 201, 202, 210, 215, 219, 221.
- Board of Trade, British, Report on Standard Piece Rates of Wages and Sliding Scales in the United Kingdom, 27 (note), 234.
- Boiler Makers and Iron Shipbuilders, Brotherhood of, 86, 89, 100, 112, 118, 165, 169, 170, 179, 199, 201, 202, 209, 210.
- Bonus system of payment, 111-114, 235-241.
- Bookbinders, International Brotherhood of, 84, 87, 126, 182, 199, 200, 219.
- Boot and Shoe Workers' Union, 50 (note), 55 (note), 56, 82 (note), 84, 112, 123, 128, 166, 187, 188, 230.
- Boston, Granite Cutters of, 80; Molders of, 82; Pants Makers of, 124 (note); Stereotypers and Electrotypers of, 119 (note).
- Brewery Workmen, International Union of the United, 83, 106, 190, 191 (and note).
- Bricklayers' and Masons' International Union, 78, 79, 84, 87, 88, 100 (note), 104, 115, 117, 164 (note), 178, 179, 186, 190, 191 (note).
- Brick, Tile and Terra Cotta Workers' Alliance, International, 55, 60, 189, 190, 225.
- Bridge and Structural Iron Workers, International Asso-

- ciation of, 85, 86, 105 (note), 164, 172, 190.
 Bridgeport, Molders of, 82.
 British Columbia, Shingle Weavers of, 133 (note).
 British miners' unions, 232 (note).
 British textile unions, 231, 234.
 British trade unions, 229 (note).
 Brockton, Boot and Shoe Workers of, 123.
 Brooklyn, Molders of, 92; Pants Makers of, 124 (note).
 Broom and Whisk Makers' Union, International, 126, 187, 188, 225.
 Brush Makers' International Union, 124, 143, 198.
 Buffalo, Bricklayers' rate in, 179; Longshoremen of, 134 (note); Molders of, 82; railway yard rates in, 168; Stone Cutters of, 98.
 Building trades unions, 79, 85, 103, 108, 115 (note), 181, 191, 192, 194.
 Bureau of Labor, U. S., Bulletin of, (notes) 48, 92, 134, 137.
 California, state rates of Bricklayers and Granite Cutters in, 178; Shingle Weavers of, 133 (note).
 Carnegie Bros.' Mill, scale of Iron and Steel Workers for, 131.
 Carpenters and Joiners, Amalgamated Society of, 190.
 Carpenters and Joiners, United Brotherhood of, 85, 88, 89, 99, 104, 107, 117, 164 (note), 173, 179 (and note), 190, 191 (note), 192, 194 (note), 195.
 Carriage and Wagon Workers, International Union of, 86 (note), 199, 200.
 Car Workers, International Association of, 86 (note), 118, 170, 199, 200.
 Cement Workers, American Brotherhood of, 86, 190.
 Ceramic, Mosaic and Encaustic Tile Layers and Helpers' International Union, 86, 104, 191.
 Chain Makers' National Union, 133, 187, 188.
 Chicago, Brickmakers of, 55, 60; Iron and Steel Workers' scale in, 131; Machinists of, 107; Meat Cutters of, 110, 170; Molders of, 171 (note); Printers of, 31 (note); railroad yard rates in, 168 (and note); Wood Lathers of, 95.
 Cigar Makers' International Union, 32, 53, 55, 61, 125, 127, 187, 188, 229.
 Cincinnati, Iron and Steel Workers' district scale for, 130 (note), 144-146; Molders of, 47 (note), 137, 171 (note).
 Classification according to competency for separate rating, 94-105.
 Cloth Hat and Cap Makers, United, 82 (note), 86 (note), 173, 196, 215.
 Collective Bargaining, standard rate a device for 10; for piece rates, 12-15, 36-39, 43, 45, 46, 48, 49, 50, 132, 134-142, 145, 146 (note), 147 (note), 149, 151-152, 155, 159, 160, 226-231; for time rates, 10-13, 166, 167, 168, 169, 172 (note), 173 (note).
 Columbus, Iron, Steel and Tin Workers of, 129 (note), 130 (note), 144-146.
 Commercial Telegraphers' Union, 190, 191.
 Commissioner of Labor, Eleventh Special Report of, 217 (note), 220 (note).
 Commissions, provision for in time scales, 106.
 Commons, J. R., (notes) 48, 137, 203.
 Comparative difficulty of production, as basis of piece rate-differentiation, 20-22, 23, 45, 46, 50, 56, 228-230; physical factors available as indices of, 23-33.
 Competency, and time minimum rate, 15-16, 94-106, 114-119;

- and admission to union membership, 16, 114-115.
- Competition, and area of rate, 126, 134-141, 143, 147, 153, 161, 163, 173, 181-184; and price reductions, 227-231; and time rates, 97-100, 105, 116, 182, 212; standard rate intended to prevent, 10.
- Composition Roofers, Damp and Waterproof Workers, International Brotherhood of, 118 (note), 191.
- Compressed Air Workers' Union, International, 87, 172, 190.
- Concord, N. H., Granite Cutters of, 81, 176, 177 (note).
- Connecticut, agreement of Founders of, 218.
- Coopers' International Union, 126, 173, 187, 188.
- Core Makers' International Union, 85 (note).
- Cost of living and area of rates, 137 (note), 138 (and note), 171, 183, 184 (and note).
- Cotton Mule Spinners, *see* Spinners' Association, National.
- Cotton weavers, *see* Textile Workers, United.
- Cutting Die and Cutter Makers, International Union of, 82 (note), 190.
- Danbury, Hatters of, 161 (note).
- Danville, Ill., basic rate in coal mining, 136.
- Defective materials, provision in piece scales for, 65-69.
- Denny, J. L., President, 154 (note).
- Denver, railroad yard rates in, 169 (note).
- District rates, 120, 128-142, 143, 166-171, 177, 227-228, 231.
- Druggists' Ware Glass Blowers' League, 155.
- East Liverpool, Potters of, 158-159.
- Efficiency, relation to time wages as affected by the minimum rate policy, 106-119; as basis of rating, 94-106.
- Elastic Goring Weavers, Amalgamated Association of, 28, 50 (note), 142, 187, 188.
- Electrical Workers, International Brotherhood of, 86 (and note), 115, 190, 191 (note).
- Elevator Constructors, International Union of, 86, 105 (note), 179 (note), 190.
- Emerson, Harrington, 238, 240, 241.
- Engineering Magazine, 238, 240 (note), 241 (note).
- England, *see* British.
- Equalized price lists, 121-123.
- Fall River, cotton weaving prices of followed as guide, 27 (note); sliding scale of Textile Workers in, 78.
- Federation of Labor, American, 99 (note), 186.
- Flint Glass Workers' Union, American, 35, 36 (note), 37-39, 42-45, 46, 60 (note), 68, 70-72, 123 (note), 129, 132, 142, 150-153, 157, 172, 186, 187, 188, 219 (note), 223.
- Form of rate preferred by unions, 17, 111 (note), 185-232.
- Foundry Employes, International Brotherhood of, 190.
- Fox, Martin, President, 205, 225 (note).
- Frey, J. P., (notes) 48, 137, 203.
- Fur Workers, International Association of, 196.
- Gantt, H. L., 238, 240, 241.
- Garment Workers, United, 35, 46, 77, 81, 82 (note), 84, 87, 109, 112, 121, 124, 126, 127, 143, 160, 166, 173, 196, 197, 220, 229, 232.
- Glass Bottle Blowers' Association, 35, 36-37, 40-41, 42, 46, 50 (note), 56-58, 67, 133 (note), 142, 155-158, 187, 188.
- Glass Bottle Blowers' League, Eastern, 155, Western, 155.
- Glass Workers' International

- Association, Amalgamated, 86 (note), 199, 200, 220.
- Glove Workers' Union, International, 56, 86 (note), 124, 196.
- Gold Beaters' National Union, United, 142, 187, 188.
- Granite Cutters' International Association, 33-35, 78, 79-81, 84, 86, 87, 88, 100, 104, 105 (and note), 107 (note), 109 (note), 117, 118, 126, 173-178, 179, 184 (note), 190, 191 (note), 193, 194, 212, 214, 220, 221, 222 (and note).
- Great Lakes, rates for, of Long-shoremen, 54, 84, 134 (note), 167; of Marine Engineers, 167; of Seamen, 166.
- Green Glass Workers' Association, 156.
- Halsey, F. A., 235, 240, 241.
- Hardwick, Vt., Granite Cutters of, 81.
- Hatters, United, 55, 69, 122, 127, 143, 160-162, 187, 188, 225.
- Heat, Frost, General Insulators, and Asbestos Workers, National Association of, 86, 190.
- Helpers, provision for payment of in piece-working trades, 61-65, 232 (note); separate minimum rates for 86, 104 (and note).
- Hendrickson, W. F., 132 (note).
- Hocking Valley, basic rate in coal mining, 136.
- Hod Carriers and Building Laborers' Union, International, 87, 118, 190.
- Homestead Strike, 148.
- Horse Shoers' International Union, Journeymen, 190, 191.
- Hotel and Restaurant Employees' International Alliance and Bartenders' International League, 86 (note), 190.
- Illinois, Coal Miners of, 83, 134-136, 167; Coal Operators of, 134-136; Iron, Steel and Tin Workers of, 129 (note), 130 (note), 144-147.
- "Improvers," 104, 105.
- Indiana, Coal Miners of, 134-136, 167; Iron, Steel and Tin Workers of, 129 (note), 130 (note), 144-147.
- Indian Territory, Coal Miners of, 134, 135.
- Industrial Commission, Report of, 59 (note).
- Industrial Workers of the World, 187.
- Intensity of Exertion, and piece work, 213, 216, 219-221, 223-225, 231-232; and premium and bonus systems, 112, 240-241.
- Interior Freight Handlers and Warehousemen, 100, 190.
- Iron and Steel Heaters, Rollers and Roughers, Associated Brotherhood of, 129, 130 (note).
- Iron and Steel Roll Hands, Grand Lodge of the National Union of, 130 (note).
- Iron Molders, see Molders' Union, International.
- Iron, Steel and Tin Workers, Amalgamated Association of, 28, 32, 50-53, 59, 60, 61, 62-65, 68, 70, 72, 123 (note), 129-131, 142, 143-150, 154 (note), 187, 188, 223.
- Jersey City, Molders of, 92.
- Jewelry Workers' Union, International, 199, 200.
- Kansas, Coal Miners of, 134, 135.
- Kentucky, Iron, Steel, and Tin Workers of, 129 (note), 130 (note), 144-146.
- Knights of Labor, General Assembly of the, 187; District Assemblies, No. 143 and No. 149, 155-156; Local Assembly, No. 300, 132, 154.
- Label, union, and area of rate, 128 (note), 160, 173, 170.
- Lace Operatives, Chartered Society of the Amalgamated, 28, 142, 187, 188.
- Ladies' Garment Workers'

- Union, International, 84, 121, 123, 198, 214-215, 222, 232.
 Lancashire, cotton weavers' prices in, 27.
 Lathers, see Wood, Wire, and Metal Lathers.
 Laundry Workers, see Shirt, Waist and Laundry Workers' International Union.
 Launer, Wm., Secretary, 155 (note).
 Leather Workers on Horse Goods, United Brotherhood of, 173, 196, 214, 225.
 Leather Workers' Union, Amalgamated, 124, 187, 188.
 Limits of Output, 67-72, 109, 110, 223-225.
 Lithographers' International Protective and Beneficial Association, 82 (note), 87, 173, 190.
 Local rates, 120, 124-128, 163-166, 181-184, 228-229.
 Locomotive Engineers, Grand International Brotherhood of, 72-76, 101, 118, 141, 168, 183, 186.
 Locomotive Firemen and Enginemen, Brotherhood of, 72-76, 118, 141, 168, 183, 186.
 Longshoremen, Marine and Transport Workers' Association, International, 50 (note), 54, 83, 134 (note), 166, 167, 183, 188, 190.
 Lowell, Mass., Molders of, 82.
 Lumber Carriers' Association of the Great Lakes, 167.
 "Lumping," 194.
 Machine Printers' Beneficial Association (Textile), 172, 186, 190.
 Machinists, International Association of, 87, 89, 96 (note), 100, 103, 107, 111, 117, 118, 119, 164, 165 (and note), 169, 182, 184 (note), 199, 201-202, 206-209, 210, 215, 219, 220, 221.
 Maine, Granite Cutters of, 175.
 Maintenance-of-Way Employees, International Brotherhood of, 190.
 Manchester, N. H., Granite Cutters of, 177 (note).
 Marble Workers, International Association of, 85, 86, 87, 104, 179, 190.
 Marine Engineers' Beneficial Association, National, 167, 186, 190.
 Maryland, Iron, Steel and Tin Workers of, 129 (note), 130 (note), 131, 147 (note); Steam Fitters of, 164.
 Maximum rate, minimum rate not intended to be, 10, 77, 79, 106, 108.
 Meat Cutters and Butcher Workmen, Amalgamated, 109, 134 (note), 170, 190, 191 (note).
 Membership of unions, 186, 188, 190, 196, 198, 199, 210-212.
 Metal Polishers, Buffers, Platers, Brass Molders, Brass and Silver Workers' International Union, 86 (note), 124, 166, 196.
 Michigan, Iron, Steel and Tin Workers of, 129 (note), 130 (note), 144-147; Shingle Weavers of, 133 (note).
 Mileage system of payment in railway service, 72-76, 141, 183.
 Miners, Western Federation of, 187.
 Mine Workers, United, 50 (note), 54, 59, 83, 134-136, 166, 167, 187, 188, 231, 232 (note).
 Minimum Rate, 9, 10, 11, 15-16, 77-119, 212, 231; Area of, 120, 163-181, 181-184.
 Milwaukee, Molders of, 119.
 Minnesota, Shingle Weavers of, 133 (note).
 Missouri, Bricklayers of, 79; Granite Cutters of, 178; Coal Miners of, 134, 135.
 Molders' Union, International, 35, 47-49, 65-67, 78, 79, 82, 85 (note), 90-94, 102, 103, 107, 110, 111, 119, 121 (note), 122, 134, 136-140, 164, 165 (note),

- 171, 182, 189, 199, 201, 202-206, 210, 215, 218, 220, 224, 231.
- Mule Spinners, see Spinners' Association, National.
- Musicians, American Federation of, 190, 191.
- Nailers, United, 130 (note), 144 (note).
- National Association of Manufacturers of Pressed and Blown Glass Ware, 44 (note).
- National Founders' Association, 91 (and note), 102, 103, 110, 138 (note), 171, 206, 218.
- National rates, 120, 142-162, 171-177, 181-184, 227-228.
- Newark, N. J., Molders of, 79.
- New Bedford, price system of Mule Spinners of, 25, 234.
- New England, Granite Cutters' rates in, 79, 107 (note), 175-177, 193; weaving price system in, 26-27.
- New Jersey, Iron, Steel and Tin Workers of 129 (note), 130 (note), 131, 147 (note); Molders of, 92 (note); Window Glass Workers of, 132, 154.
- New York City, Bricklayers of, 79, 164 (note); building trades of, 115 (note); Carpenters of, 164 (note); Composition Roofers of, 118 (note); Granite Cutters of, 80, 105, 193; Journeyman Stone Cutters' Society of, 99 (note); Ladies Garment Workers of, 123; Marble Workers of, 85; Molders of, 92; Painters of, 164 (note); Pants Makers of, 124 (note); Plasterers of, 79; Printers of, 78, 125; Steam Fitters of, 118 (note); Stereotypers and Electrotypers of, 119 (note); Stone Cutters of, 97-99; Wood Carvers of, 96 (note).
- New York State, Cigar Makers of, 127; Iron, Steel and Tin Workers of, 129 (note), 130 (note), 131, 147 (note); Molders of 92 (note), 140;
- Window Glass Workers of, 132, 154.
- Ohio, Iron, Steel and Tin Workers of, 129 (note), 130 (note), 144-146; Miners of, 134-136, 168.
- Ohio Valley, Flint Glass Workers of, 70, 133 (note), 150, 153.
- Oregon, Granite Cutters of, 178; Shingle Weavers of, 133 (note).
- Output, see Intensity of Exertion, and Restriction of.
- Painters, Decorators, and Paperhangers, Brotherhood of, 79, 85, 87, 89, 100, 104, 164 (note), 165 (note), 179 (note), 192 (note), 199, 201.
- Paper and Pulp Makers, International Brotherhood of, 199.
- Pattern Makers' League, 77, 190, 191.
- Pavers, Rammers, Flaggers, Bridge and Stone Curb Setters, International Union of, 86 (note), 87, 190.
- Paving Cutters' Union, 198.
- Pen and Pocket Knife Grinders' and Finishers' National Union, 187, 188, 225.
- Pennsylvania, Bureau of Industrial Statistics of, Report of, 51 (note).
- Pennsylvania, Coal Miners of, 134-136, 232 (note); Iron, Steel and Tin Workers of, 129 (note), 130 (note), 131, 147 (note); Molders of, 140; Window Glass Workers of, 132, 154.
- Percentage advances in time rates, 77, 107.
- Philadelphia, Garment Workers of, 81; Granite Cutters of, 80; Iron, Steel and Tin Workers of, 131 (note), 147 (note); Molders of, 48, 93, 122, 137; Printers of, 125.
- Photo-Engravers, International Union of, 86 (note), 191.

- Piano and Organ Workers' International Union, 124, 196.
- Piece Rate, 9, 10, 11, 12, 13-15, 212-213; see Piece Scale and Piece Work.
- Piece Scale, area of, 120, 121-163, 181-184, 227-230; construction and operation of, 13-15, 19-69, 213-216; features of, 18; function of, 13, 18.
- Piece scale as basis for time wages, 80, 105, 107 (note).
- Piece Work, attitude of unions toward, 185-212; not feasible in some trades, 191, 198 (note), 199, 202; objections of unions to, 213-225; reasons for accepting, 225-232.
- Pittsburgh, Bricklayers of, 179; Flint Glass Workers of, 70, 150, 153; district scale of Iron, Steel and Tin Workers of, 63, 126, 130 (note), 144-147.
- Plasterers' International Association, Operative, 78, 79, 84, 85 (and note), 104, 186, 191.
- Plumbers, Gas Fitters, Steam Fitters and Steam Fitters' Helpers, United Association of Journeymen, 85, 86, 104, 179 (note), 191, 194 (note).
- Post Office Clerks, United National Association of, 191.
- Potters, The National Brotherhood of Operative, 28, 35, 36, 45 (and note), 60, 70, 72, 123 (note), 133 (note), 142, 158-160, 187, 188, 225 (note).
- Potters' National Union, 159.
- Powder and High Explosive Workers, United, 187, 188.
- Premium System of payment, 111-114, 235-241.
- Print Cutters' Association, 82 (note), 105 (note), 172, 191.
- Printers, see Typographical Union, The International.
- Printing Pressmen and Assistants' Union, International, 78, 86, 182, 191.
- Providence, Granite Cutters of, 80; Molders of, 82, 91 (note).
- Puddlers, see Sons of Vulcan, and Iron, Steel and Tin Workers, Amalgamated Association of.
- Quarry Workers' International Union, 191.
- Quincy, Mass., Granite Cutters of, 81, 175, 176, 177 (note).
- Railroad Telegraphers, Order of, 191.
- Railroad Trainmen, Brotherhood of, 72-76, 118, 141, 168, 183, 186.
- Railway Carmen, Brotherhood of, 86 (note), 100 (note), 118, 170, 186, 199, 200.
- Railway Clerks, International Association of, 186, 191.
- Railway Conductors, Order of, 72-76, 118, 141, 168, 183, 186.
- Rastall, Samuel, 31 (note).
- Reductions in prices, under piece system, 213-214, 216, 217-218, 223, 225-232; under premium and bonus systems, 113.
- Republic Iron and Steel Company, 149 (note).
- Restriction of Output, 108-110, 154, 223-225.
- Retail Clerks' International Protective Association, 106, 191.
- Rochester, Cigar Makers of, 127.
- Saint Louis, Flint Glass Workers of, 153; Iron, Steel and Tin Workers of, 144-146; Molders of, 82, 139.
- Saw Smiths' Union, 172, 199, 200.
- Schloss, D. F., (notes) 217, 219, 220.
- Seamen's Union, International, 86 (note), 87, 166, 183, 191.
- Sheet Metal Workers' International Alliance, Amalgamated, 179 (and note), 191 (and note).
- Shingle Weavers' Union, International, 58 (note), 133, 199, 200, 214, 221, 227 (note).
- Shipwrights, Joiners and Caulkers' Union, International, 191.
- Shirt, Waist and Laundry

- Workers' International Union, 84, 87, 173, 199, 201, 222.
- Shop price lists, 121-124, 163, 229-231.
- Slate and Tile Roofers' Union, International, 164, 179 (note), 191.
- Slate Workers, International Union of, 189, 190.
- Sons of Vulcan, United, National Forge of, 126 (note), 129 (note), 130 (note).
- Specialization, and piece work, 216, 221; union opposition to, 88, 89.
- Spedden, E. R., 173 (note).
- Spinners' Association, National, 24-25, 50 (note), 61, 69, 124, 187, 188, 231, 233-234.
- Springfield, Mass., Molders of, 82.
- Standard rate, definition of, 9; function of, 10; see Piece Rate and Time Rate.
- State minimum rates, 177, 184.
- Stationary Firemen, International Brotherhood of, 191.
- Steam Engineers, International Union of, 87, 191.
- Steam, Hot Water and Power Pipe Fitters and Helpers, International Association of, 86, 105 (note), 118 (note), 164, 179 (note), 191.
- Steel and Copper Plate Printers' Union, National, 189, 190.
- Steel Plate Transferrers' Association, 189, 190.
- Stereotypers and Electrotypers' Union, International, 86 (note), 87, 105 (note), 115, 119 (note), 182, 191.
- Stone Cutters' Association, Journeymen, 88, 97-99, 105 (note), 108, 118, 164, 177, 179-181, 191 (and note), 192, 195.
- Stove Founders' National Defense Association, 48, 65, 137-139, 141, 171, 205, 224, 225, 230.
- Stove Mounters and Steel Range Workers' International Union, 48 (note), 140, 173, 187, 188, 225.
- Street and Electric Railway Employes, Amalgamated Association of, 100, 118, 191.
- Subcontracting, 194 (and note), 229 (note).
- Switchmen's Union, 118, 168 (and note), 183, 191.
- Sylvis, W. H., President, 203 (note).
- Syracuse, Cigar Makers of, 127.
- Table Knife Grinders' National Union, 142, 187, 188, 225.
- Tailors' Union, Journeymen, 35, 47, 50 (note), 126, 127, 198, 222.
- "Task" system, 109, 110, 232; and bonus system, 111, 112, 238.
- Taylor, F. W., 237, 240.
- Teamsters, International Brotherhood of, 86 (note), 106, 191, 192.
- "Team" system, 232.
- Texas, Coal Miners of, 134, 135; Stone Cutters of, 177.
- Textile Workers, United, 25-27, 78, 84 (note), 124, 187, 188, 231.
- Theatrical Stage Employes, International Alliance of, 86 (note), 172, 191.
- Time Rate, 9, 10, 11, 15-16, 77-81; see also Minimum Rate.
- Tin Plate Workers' International Protective Association, 142, 187, 188.
- Tip Printers, International Brotherhood of, 189, 190.
- Tobacco Workers' International Union, 126, 188, 190.
- Toledo, Molders of, 82 (note).
- Travellers' Goods and Leather Novelty Workers' International Union, 124, 196, 221.
- Trenton, Potters of, 158-159.
- Troy, Cigar Makers of, 127; Molders of, 122, 138.
- Typographical Union, International, 30-32, 59, 69, 78, 84, 87, 100, 112, 119, 125, 126, 173, 182, 189, 190, 212.

- Typothetæ, United, 101.
 Unemployment and piece work, 216, 218, 223, 224.
 Uniform advances in time rates, 77, 106-107.
 Uniformity, in time wages, influence of union minimum toward, 106-119; territorial, in rates, see Area.
 Upholsterers' International Union, 199, 201.
 Utica, Cigar Makers of, 127.
 Wall Paper Machine Printers' and Color Mixers' Association, 86 (note), 87, 172, 190.
 Warne, F. Julian, 134 (note).
 Washington, D. C., Columbia Society (Printers) of, 31 (note); Granite Cutters of, 105.
 Washington, Shingle Weavers of, 133 (note).
 Watch Case Engravers' International Association, 199, 200.
 Weavers, see Textile Workers, United.
 Webb, Sidney and Beatrice, (notes) 9, 217, 220, 229, 231, 232.
 Western Bar Iron Association, 149 (note).
 Wheeling, Iron, Steel and Tin Workers of, 144-146.
 Window Glass Workers, Local Assembly 300, Knights of Labor, 154-155.
 Window Glass Workers, National, 29, 60, 61, 62, 67, 129, 131-132, 142, 154, 186, 187, 188, 223.
 Wire Weavers' Protective Association, American, 142, 187, 188.
 Wisconsin Iron, Steel and Tin Workers of, 129 (note), 130 (note), 144-147; Shingle Weavers of, 133 (note).
 Wood Carvers' Association, International, 95, 96, 192 (note), 199, 200.
 Wood, Wire and Metal Lathers' International Union, 86 (note), 95, 109, 164, 179 (note), 189, 190, 192.
 Wood Workers' International Union, Amalgamated, 85 (note), 89, 107, 173, 179, 192 (note), 199, 200.
 Worcester, Molders of, 82, 91 (note).

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